# Thinking outside the protected area box: Exploring conceptions of nature conservation in Cambodia

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by

Juliane O'Hora Diamond

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Cambodia is a country at the intersection of rapid development and pressure to conserve remaining forested areas. Nature conservation is a stated priority of the Royal Government of Cambodia but is implemented primarily by international organizations. With almost 80% of Cambodia's population still living rural lifestyles, many communities are impacted by conservation initiatives developed by these organizations. In order for conservation to be relevant and considered legitimate by local communities, investigations into how communities conceive of nature conservation as well as all that surrounds it are necessary. This study aimed to expose the meaning of nature conservation to Cambodian people around a wildlife rescue centre and the capital city of Phnom Penh.

For this study a qualitative epistemology was used based on a social construction of nature theory framework. It was conducted around the Phnom Tamao Wildlife Rescue Centre (PTWRC), a rescue centre that is located approximately 40km from Phnom Penh, Cambodia and set inside of a 2,500 hectare protected area. Fifty semi-structured interviews were conducted with four target groups representing distance and relationship to the rescue centre, as well as ten key-informants from the government, NGOs and staff of the rescue centre. Demographic information was collected in order to identify variance between target and demographic groups. Discourse analysis was conducted with the aid of NVivo 10 software to organize the themes that emerged.

The main findings of this study related to constructions of PTWRC as a zoo, a resort, a place for wildlife conservation and for raising wildlife. Dynamic themes also arose around nature, including nature in the utilitarian sense with air, water, fish and trees; nature as happiness and wellbeing; nature as protection and balance; and nature as not manmade. In its wider conceptualization, nature conservation revolved around it providing "protection" of nature, and participants' conceptions of it. Discussions of nature conservation also exposed themes around tourism and sustainability as well as revealing how it

occasionally was an unfamiliar term. Overall the data showed that Cambodians possess a range of knowledge's about nature and nature conservation. Many participants were familiar with threats to forests and wildlife and the decline of wildlife populations and forested lands. Individuals also had suggestions on how to alter these trends and expressed their opinions on the appropriate priorities for Cambodian development and conservation. Interviewees knew of drawbacks resulting both from conservation and development and held several different conceptions of nature and wildlife. These constructions varied across demographics and the target groups but there was also a significant amount of overlap leading to the overarching themes.

Recommendations were made for conservation practitioners to consider how communities in their region socially construct nature conservation and in particular, nature. Additionally, this study revealed relevant environmental values connected with indivdiuals' conceptions of nature which could be incorporated into conservation implementation.

**Keywords:** Social science, social construction theory, social construction of nature theory, Phnom Tamao Wildlife Rescue Centre, Cambodia, Southeast Asia, conservation, wildlife rescue, illegal wildlife trade.

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# Chapter 1

# Introduction

In Cambodia, nature conservation exists at the intersection of historically convenient preservation, recent and on-going deforestation and direct practitioner influence. Beginning in the 1960's and 1970's when countries surrounding Cambodia were converting their forests, Cambodia experienced a stunting civil war that reversed much of the country's development and, by default, prevented the felling of trees. When the wars ended, several scenarios led to the increased deforestation that is still seen today. This reality is argued by Reimer and Walter (2013, p.124):

> *It is widely agreed that conservation of both wilderness areas and wildlife in Cambodia has been the result of war and armed conflict rather than of intentional, thoughtful preservation policies or practices. With the end of armed conflict, wilderness areas are today newly accessible to resource exploitation and development.*

Prior to the wars there was minimal deforestation reportedly due to the relationship Cambodian people have ancestrally had with nature. Cambodian people historically lived directly with nature. As maintained by De Lopez (2002, p.355):

> *… the wilderness of nature has always figured prominently in the awareness of the Khmer, the people of Cambodia. Forests covered most of their country until the very recent past*.

Today, with rapid development and urbanization being the trend in Cambodia, conservation initiatives are being implemented by the government and conservation organizations in order to manage and protect what is left of the forested areas. But with 80% of the population still living rural lifestyles, many communities are directly impacted by the initiatives. Alongside working with communities, all conservation practitioners must work within the politics of the Royal Cambodian Government. Milne and Niesten (2009, p.537) acknowledge that: "conservation practitioners must be astute in managing the social and political processes required to achieve and maintain legitimacy."

These three quotes represent three main realities this thesis addresses: 1) The reality of deforestation, illegal wildlife trade, rapid habitat loss and overexploitation leading to ecosystem failures in Cambodia, 2) the reality that nature has historically been a very important aspect of Cambodian people's lives, and 3) that in order for conservation to be successful it is crucial that practitioners are aware of the social side of their work in order to remain relevant and legitimate in the eyes of local communities. This study examines how this collection of issues are being interpreted by Cambodian people today, in the context of a rurally based wildlife rescue centre, the communities living within and outside of the protected area around the centre, and those living in and around the capital city. In particular, I focus on how Cambodian people conceptualize nature today in the context of this rapidly changing landscape and how

their thoughts and associations with nature conservation have implications for the legitimacy, implementation, and long term success of conservation initiatives.

While nature conservation has technically been in practice in Cambodia since early French colonial rule, there is still a sense that it is a fairly new endeavour due to the recent civil war which reconstructed the entire country's established infrastructures. Since relative peace began again in the early 1990s, international non-governmental organizations (NGO) and the Royal Government of Cambodia (RGC) have demarcated protected areas (PA) and implemented country-wide conservation initiatives. By learning more about the notions associated with nature conservation in Cambodia, the RGC and conservation practitioners will be better equipped to address the thoughts, needs and priorities of Cambodian people. This will allow those implementing conservation to work with those who are impacted by the initiatives, in order to build on pre-existing values and determine a productive and collaborative way forward.

## 1.1 Thesis Aim and Objectives

### 1.1.1 Research Questions

**(1) How are communities surrounding Phnom Tamao Wildlife Rescue Centre (PTWRC) and individuals in Phnom Penh socially constructing nature conservation and the concepts that surround it, including nature, wildlife and the rescue centre itself?**

This study provides a contextual example that can be beneficial as a supportive illustration of reality on the ground. The PTWRC itself provided a location that both enacts conservation as well as being a part of a protected area, while also providing a reference point for those unfamiliar with the terminology, as it is a well-known place even for urban individuals. Participants were then able to express their ideas around a physical institution (PTWRC), a concept (nature, wildlife, nature conservation) and conservation strategy (such as restricted use).

**(2) How does distance from the centre, relationship to the centre (target groups), and demographics (demographic groups) influence the conception of nature and nature conservation?**

This study did not assume that Cambodian people, regardless of their socio-economic status or geographical location would think the same about these issues. Learning both the overarching importance of various notions around nature conservation, as well as the variance between groups will allow for more tailored understandings of the dynamics that exist.

### 1.1.2 Research aim and objectives

Different constructions of nature are created by different societies and that is why nature conservation cannot simply be implemented successfully without considering how the local communities' perceive of nature. From this premise this thesis explores the different themes attributed to concepts surrounding

nature conservation including ideas about nature, wildlife and a conservation initiative – a wildlife rescue centre. The main aim of this research is to expose the meaning of nature conservation to Cambodian people as it relates to their social construction of nature. From there the research aims to learn how this associated meaning varies geographically and demographically. The findings aim to be informative for conservation practitioners, providing insight into how a community impacted by conservation, as well as those living far from it, conceptualize nature conservation and the issues around it.

The objectives laid out below will help guide the research to meet its aim and answer the above stated questions. These objectives are:

1. To review the literature on social construction theory (SCT) and social construction of nature theory (SCN) to develop a framework for the analysis.
    a. To review the history of SCT and SCN.
    b. To review studies that used SCT and SCN to learn more about environmental issues.
2. To study the contextual information available regarding Cambodia's history, current development trends and conservation in practice.
    a. To review Cambodia's civil war and its impact on the population.
    b. To examine current livelihoods and relationships with conservation.
3. To determine what conceptions of nature conservation mean for its future implementation.
    a. To evaluate Cambodians in four different target groups.
    b. To identify divergence in how different target groups, demographic groups and key-informants socially construct nature conservation.
4. To make policy recommendations based on the findings of the research.

## 1.2 A Social Construction of Nature Theory Approach to Understanding Cambodians Conceptions of Nature Conservation

Numerous studies have investigated how communities feel about a particular ecotourism or payment for ecosystem services project (Milne & Niesten, 2009; Reimer & Walter, 2013; Torres-Mendoza, 2006). They reveal that frequently there are misunderstandings and perceived inequalities resulting from the conservation initiative. These studies help provide feedback to the institutions and organizations implementing the project who, hopefully from there, remedy the negative realities shown and build upon the aspects that are proving effective and positive for the community as a whole.

Social construction of nature theory is a framework for analysis that has been used by researchers to examine the complex relationship of humans and their environment (Carle, 2007; N. Castree & B. Braun, 2001; W. D. McCallum, 2003; McFarlane, 2011; Scarce, 2000). It is used as a tool to learn how humans see and interpret the natural world. It has been used to look mostly at specific dynamics, for

example Scarce (2000) examining the social construction of salmon in America. This study contributes to the body of literature that uses SCN, and to the studies that examine conservation by exploring the broader constructions around the concept of nature conservation. Through this framework, how Cambodian people conceptualize and interact with nature conservation will be examined. The revealed conceptions will ideally help inform conservation practitioners and the RGC of the key priorities and cultural associations individuals living in this region have toward nature conservation. From there, appropriate development and maintenance of conservation measures can be adopted that work for communities at multiple scales from local to global.

## 1.3 Structure of Thesis

The thesis is structured as follows:

Chapter 2 provides background and context for the research. Beginning with an overview of Cambodia historically, geographically and demographically, it then moves on to the political ecology of the country today. This chapter outlines the realities that exist in relation to the government's role in nature conservation, as well as NGO contributions to nature conservation. This chapter points out how these institutions are interconnected and need to be considered when pursuing research relating to nature conservation. Chapter 2 also deals more broadly with the history of nature conservation, how it plays out in the Cambodian context and what is already known about how nature conservation is conceptualized in Cambodia. The chapter wraps up by discussing the realities that exist in Cambodia when dealing with wildlife, including the illegal wildlife trade and the role of wildlife rescue centres, zoos and sanctuaries.

Chapter 3 explores the theoretical context for the research, namely social construction theory (SCT). The chapter overviews the history of SCT and how it is deployed for social science research relating to conceptions of nature. Chapter 4 discusses the methodological framework used in this study including discourse analysis. This chapter also lays out the methods used to collect the data and how it was analysed.

Chapter 5 presents the results found after analysis of the data was conducted. The analysis revealed themes relating to the Phnom Tamao Wildlife Rescue Centre itself, nature, wildlife, nature conservation in general as well as threats, drawbacks and thoughts relating to city or country individuals. The results highlight the significant divergences between the different target and demographic groups.

Chapter 6 discusses the potential connections and explanations revealed in the results by linking them back to their theoretical and historical context. The chapter also explores the reasons why variance between target and demographic groups may have occurred. This chapter then examines how discourse regarding the "other" including city and rural and 'then versus now' relate to what the study and historical context reveal. Chapter 6 concludes by unveiling what nature conservation means to

Cambodians as a whole and how that might provide insight for those implementing conservation in Cambodia.

Chapter 7 provides a summary of the research by answering the research questions. It also provides policy recommendations for conservation practitioners and suggestions for future research. It concludes by exploring the use of SCT in this study and makes some overall conclusions about the research.

# Chapter 2

# Context and Background

## 2.1 Introduction

Cambodia is a developing country with a troubled recent history. As an emerging economy many stakeholders and countries are competing for Cambodia's natural resources, as Cambodians are striving for their own economic growth and poverty reduction. Nature conservation is a stated priority of the Cambodian government, and many international and national non-governmental organizations (NGOs) are involved in conserving Cambodia's forested areas as well. This research set out to learn more about how Cambodian people conceptualized nature conservation. In order to do that, some contextual information is vital. This chapter provides that background.

This chapter begins by discussing the Kingdom of Cambodia as a whole, historically, demographically and geographically. From there, insights from political ecology are utilized to examine the complex political context in the country relating to the environment, which significantly impacts the dynamic of nature conservation. The chapter then reviews Khmer culture, particularly relating to the Buddhist religion. The interconnectedness of these institutions: religion, NGOs, and the government are also stressed in this chapter in order to provide the reader with an understanding of the role these groups play in influencing the environmental ideas encountered by Cambodian people.

The chapter then moves on to provide an overview on nature conservation and how it is expressed in Cambodia. It explores what is already known about how nature conservation is interpreted in Cambodia and what threats it faces. The chapter concludes by identifying the specific type of conservation that is relevant to this study, namely wildlife rescue; as well as rescue centres, zoos, and sanctuaries' and their roles in the fight against the illegal wildlife trade and for nature conservation.

## 2.2 The Kingdom of Cambodia – Historically, Demographically and Geographically

### 2.2.1 Geography and climate

Cambodia is located in the southern portion of the Indochina Peninsula in Southeast Asia. Countries that border it are Thailand to the northwest, Laos to the north, and Vietnam to the east with the Gulf of Thailand to the southwest. Its landmass covers a total area of around 181,035 $km^2$. Cambodia is hot all year round with a cyclical monsoon season during June–October. The dry winter season is approximately November–May, although due to climate change these cycles are changing and rains have become more unpredictable (Qui, 2008; Turner & Annamalai, 2012).

### 2.2.2 Demographics

Cambodia has a population of around 14.3 million, with 30% living below the poverty line and as of 2010 over 79% of the population still living in rural communities (World Bank, 2012). Cambodia's capital and largest city is Phnom Penh. Ethnic groups in Cambodia are comprised of 96.2% Khmer, 1.6% Cham (Cambodian Muslim), 0.4% Vietnamese, 0.1% Chinese, 0.1% Lao, 1.5% hill tribes, 0.1% other (National Institute of Statistics, 2012; Poole, 2009). According to the UNDP Human Development index of 2011, Cambodia is ranked number 139 out of 187 (UNDP, 2011).

In 2010, a socio-economic survey was conducted by the National Institute of Statistics, Ministry of Planning; according to that survey Cambodians on average make approximately $225.25USD per month, in Phnom Penh that is $496.75USD and in rural areas around $174.25USD. The same survey measured literacy and found that the adult literacy rate for Cambodia was 77% overall, with 69% for women, and 85% for men. In Phnom Penh, men had 97.4% literacy and women 88.7%. In the rural areas 64.6% of women were literate and 82.4% of men.

By age group the 15-24 year olds were the most literate, with the smallest gap between sexes, 88.2% for women, 89.4% for men. The largest gap existed between 65+ women, 22.4%, and men, 72.5%. The same survey revealed that the urban population was growing at an annual rate of 2.1% and the rural population growing at 1.5%.

According to National Accounts of Cambodia 1993-2010 reported by the National Institute of Statistics, the Cambodian economy recovered from the global down turn in 2010 and grew at a rate of 6.0% that year. The estimated GDP for 2011 was $12.83 billion USD (World Bank, 2012).

### 2.2.3 A troubled history

Cambodia gained its independence from France in 1953 whereby King Norodom Sihanouk ruled until 1970, 1954-1970 being known as the "Sihanouk years" (Chandler, 1993, p. 4). While visiting Beijing in 1970 Sihanouk was ousted by the National Assembly (Chandler, 1993). Lon Nol assumed power and the Cambodian monarchy was abolished, the country was then renamed the Khmer Republic. The new regime aligned itself with the United States and demanded that the Vietnamese communists leave Cambodia. During this time the US proceeded to bomb the Cambodian North Vietnamese Army (NVA) base areas and was beginning to send in ground troops. But the Cambodian communists with the aid of the Vietnamese were too much for the new government and by 1975 Communist troops launched an offensive, which collapsed the Khmer Republic (Chandler, 2008).

From 1975-1979 the Khmer Rouge ruled. The regime aimed to restructure all of Cambodian society by collectivizing agriculture and purging the country of educated and religious individuals (Chandler, 1993). Even though the regime was a communist entity it even broke relations with Vietnam in 1977 (Chandler, 1993). Cambodia was renamed again, Democratic Kampuchea (DK). During the Khmer Rouge, Pol Pot was appointed prime minister and King Sihanouk was put under house arrest. Over the four years of rule, the Pol Pot era would commit millions to death by executions, starvation and disease (Sonneborn, 2012).

In 1979 the Vietnamese pushed out the Khmer Rouge, who retreated to the Thai border (Chandler, 1993). The new regime headed by Heng Samrin established the People's Republic of Kampuchea (PRK), although the Vietnamese were generally felt to be liberators there were still issues of civil war which led to more deaths (Chandler, 1993). It was not until 1989 that peace efforts began under another new name, the State of Cambodia. In 1991 the United Nations (UN) took over to help implement political stability and held elections that over 4 million Cambodians took part in (Brinkley, 2011). The election established a multiparty liberal democracy in the framework of a constitutional monarchy, with the former Prince Sihanouk elevated to King. Prince Ranariddh and Hun Sen became First and Second Prime Ministers, respectively, in the Royal Government of Cambodia. Eventually Hun Sen pushed out Prince Ranariddh and his FUNCINPEC Party and has remained the sole prime minister to this day (Bith, 2011; Brinkley, 2011).

## 2.3 The Political Ecology of the Kingdom of Cambodia Today

For the past decade the RGC has been decentralizing and in 2002 the first commune councils were elected (Pact, 2004). Through this decentralization several different attempts at development have been pursued by various communities and organizations. As discussed in a report by Nee and McCallum (2009), several different "roads" to development have been taken around Cambodia; including a collaborative community-based natural resource management approach (Lo Cascio, 2010). In all the different "roads" there are successes and pitfalls, but what many researchers (Marschke & Berkes, 2005; Sachs, 2002; Tao & Wall, 2009) have found is that in terms of conservation and development goals, a strategic, community-focused approach has better success and compliance results.

The RGC is influenced and dependent on the international community for funding and assistance, and frequently these institutions want to see sustainable development which includes conservation. Therefore, to the appreciation of (and also due to the pressure from) international conservation organizations and foreign governments, the Cambodian government has made several claims regarding their commitment to nature conservation including the stated aim of preserving 60% of the forest cover (including plantations) (Royal Government of Cambodia, 2009). This commitment tends to be at odds though with their other stated development goals as can be seen in the Royal Government National Strategic Development Program (Royal Government of Cambodia, 2009), which include deriving significant income from logging. This figure is also competing against the pressure from companies that

want to convert the land for private purposes. It is no secret that these demands are primarily coming from China and Vietnam, both countries making power plays to dominate the region (Murray, 2012). In the past three years alone, 17 million acres of land concessions have been granted, that is around 40% of the country (Murray, 2012) (see Figures 1 and 2 below).

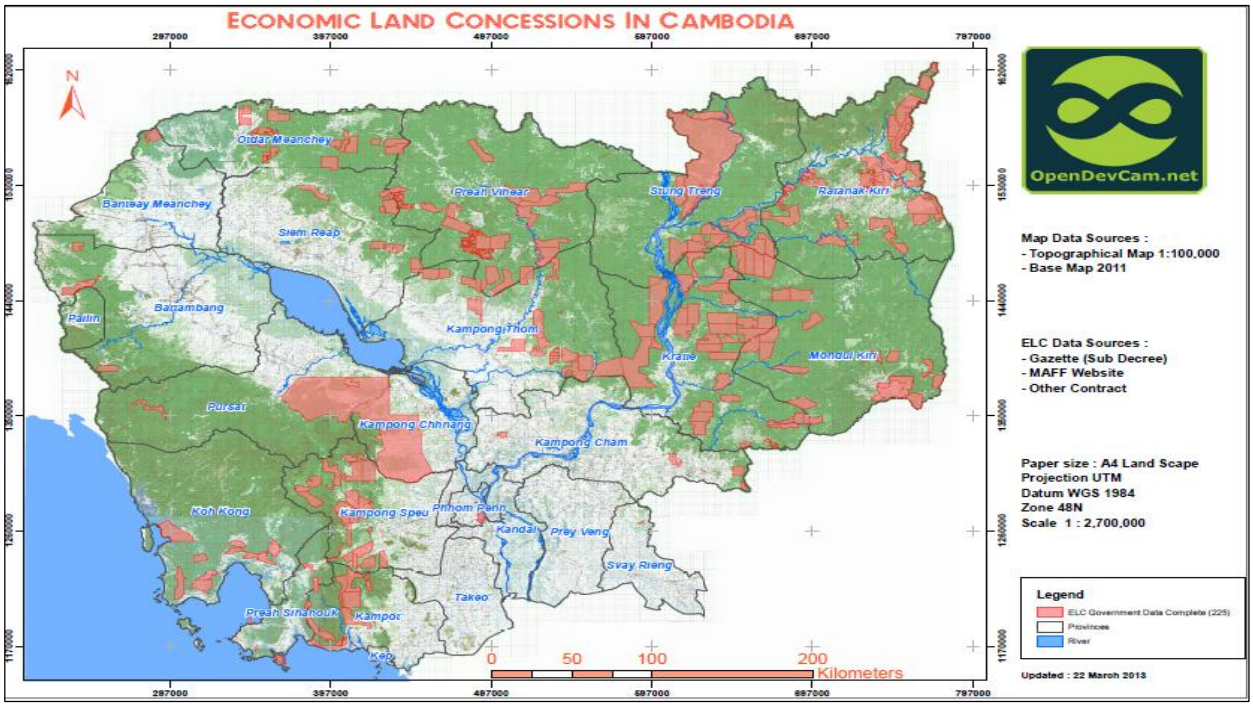


**Figure 1: Economic land concessions in Cambodia (data sourced from Royal Cambodian Government. Source: OpenDevelopment Cambodia)**

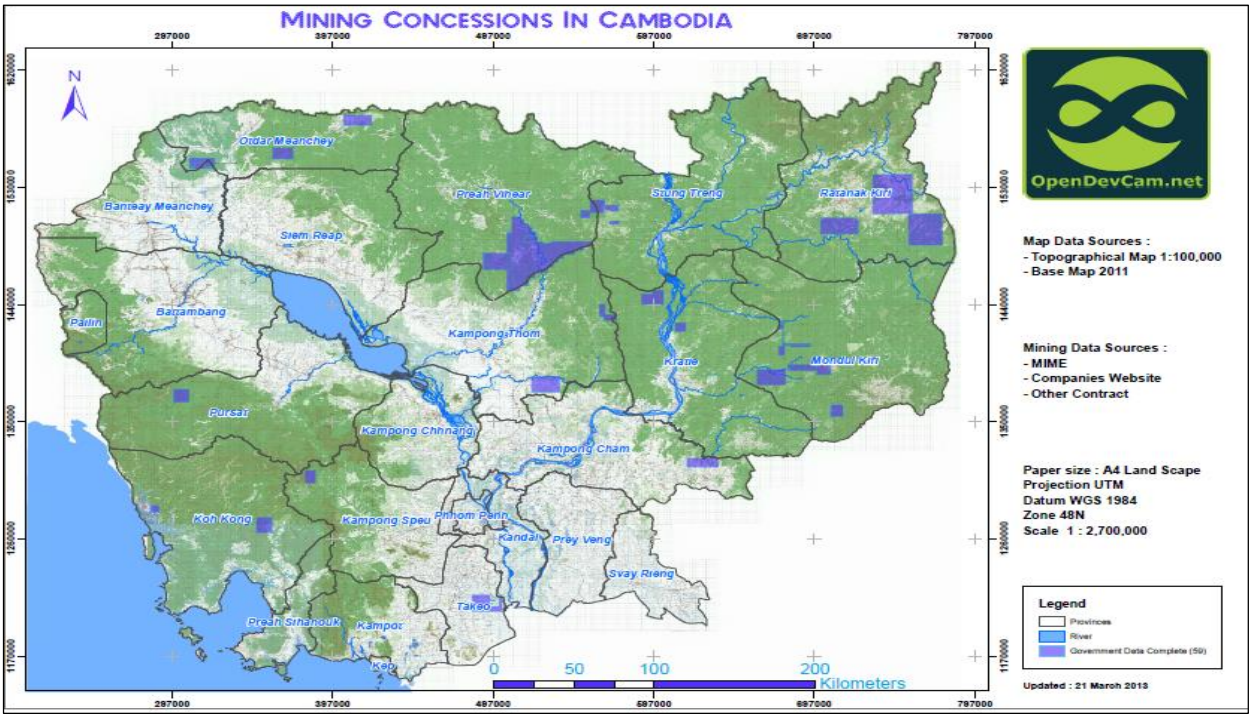


**Figure 2: Map of mining concessions in Cambodia (data sourced from the Royal Cambodian Government. Source: OpenDevelopment Cambodia)**

Of course development puts pressure on the natural resources of a country and, as has been expressed by the government ministries, sustainable forms of development for Cambodia are a priority (Travers,

Clements, Keane, & Milner-Gulland, 2011; Vimolsiddhi, 2009). But forest loss and degradation is a serious concern in Asia as a whole and particularly in Cambodia. From illegal logging in protected areas to conversion of land for agricultural purposes, Cambodia has seen major forest degradation in recent decades (Reynolds, 2005). Considering land concessions are also still a major issue for communities and wildlife dependent on these forests, along with Chinese investment being over 1 billion USD, conservation in the region has never been more necessary (LICADHO, 2009; Chan Thul, 2012, Vrieze & Naren, 2012; Heder, 2012).

Political ecology focuses on exposing who the winners and losers are when it comes to environmental change and resource use. It also stresses the importance that dominant narratives have in reinforcing these relationships for those who benefit or profit from the system in place. Several researchers (De Lopez, 2002; Le Billion, 2000) have already explored the political ecology landscape in Cambodia. De Lopez and Le Billion examined the appropriation, use and exclusion involved in natural resource exploitation. They both found a concentration of the power in the hands of the military, elites and political leaders that allowed for those groups in particular to benefit while the majority of the population struggled to survive (De Lopez, 2002; Le Billion, 2000). De Lopez also discussed how the unsustainable natural resource exploitation will eventually lead (and had already in some places) to social instability, but with the military still possessing significant power, any uprising most likely would result in a few tanks quelling the rebellion (De Lopez, 2002). This exemplifies both the deep divide between the rich and poor that exists in Cambodia, as well as the underlying instability that comes from even a mildly suppressive government.

Numerous stories exist that expose how local people are exploited and pushed out of their homes by these kinds of developments that benefit the elite, the government, and the military as well as the foreign companies (Cambodian League for the Promotion and Defense of Human Rights, 2009; W. McCallum, 2008; Murray, 2012; Nee & McCallum, 2009; A. Schneider, 2011; Vrieze & Naren, 2012). Despite this fact, the Cambodian government has the overarching power to make the decision on land use since property law is weak due to lack of land titles which were abolished during the Khmer Rouge. This allows the government to profit, either financially or politically, from any choice they make.

Le Billion argues that there also exists a shadow state that conducts the illegal logging and when logging was banned, that it only allowed for the marginalized segments of society who conducted minor illegal logging to be excluded. Laws did not prevent the shadow state from maneuvering the system and only gave more significant power to transnational companies (Le Billion, 2000). Le Billion found that government officials had the mentality of "if I don't steal this money (or valuable timber), somebody else will do it" (Le Billion, 2000, p. 799).

## 2.4 Non-governmental Organizations (National and International) in Cambodia

NGOs make a significant contribution to conservation efforts in Cambodia. Several large international NGOs (e.g. Conservation International, Wildlife Conservation Society, Flora Fauna International, World Wide Fund for Nature, and Wildlife Alliance) run conservation projects around the country including payment for ecosystem services, ecotourism, sustainable agriculture, reforestation, wildlife rescue and rehabilitation. The NGOs set up projects inside and out of the conservation zones (see Section 2.7) in order to combat the destruction of forests and ecosystems by providing alternative livelihoods, promoting environmental education, or equipping rangers to effectively patrol the protected areas. NGOs' goals in Cambodia though can easily run into the realities of the political situation in the country (Milne & Niesten, 2009).

With over one thousand NGOs and INGOs operating in the country, Cambodia has developed a codependence with donor countries and NGOs. Since most organizations working in Cambodia are established to help either Cambodian society or Cambodian environment, the government therefore works "together" with the NGOs to help meet its own strategic welfare goals (Rasmussen, 2010; Royal Government of Cambodia, 2009). As seen with the Phnom Tamao Wildlife Rescue Centre, a government owned zoological park and protected area, two main INGOs support the functioning of the establishment through direct management and supplemental funds. In this way the government maintains its sovereignty over the zoo but is not fully running the facility.

The Royal Government of Cambodia manages a fine balance between appeasing its foreign donors and maintaining its own sovereignty. By allowing so many NGOs to operate they are allowing them to identify many of the country's social priorities. Considering many of these organizations are from North America and Europe they therefore promote western concepts of issues like property, medicine and nature conservation. But the NGOs walk a fine line because the RGC maintains its right to shut down or expel any organization that does not respect its authority.

Additionally, since funding to promote public awareness, particularly of environmental issues, frequently stems from NGOs' budgets and thereby originating from NGOs' own goals, it would appear they have initiated the dialogue, but with the stamp of approval and ministry title on the materials and advertisements it can easily be interpreted by individuals as a government idea. In this way NGOs are able to drive the discourse around the topics, but only in a way that is amenable to the government (see Figure 3).

## 2.5 Khmer culture – Theravada Buddhism

> *Buddhist monks and ex-monks have actually been significant figures in the exercise of political power in various parts of Asia, for only they had the mobility, education, and moral authority to create effective countrywide organizations during the premodern period.* (Harris, 2008, p. 188-189)

As argued in the quote above, Theravada Buddhism has been a prominent source of culture in Cambodia since the time of Angkor (Harris, 2008). Buddhism has influenced life in Cambodia by structuring regular rituals and through underlying teachings on how to live. Although monks and monasteries suffered tremendously during the civil war, with 63% of monks dying or being executed by the Pol Pot regime, Buddhism was carefully re-established after the fall of the Khmer Rouge. In 1981 there were approximately 2,311 monks in 1,821 monasteries, an overall decrease of around 60,000 monks since the Khmer Rouge came into power (Harris, 2008).

Since the 1980s Buddhism has made a full recovery in the country and is now recognized as the religion of over 96% of the population (CIA, 2013). Although much of the urban population is embracing the culture of a globalized world, with technology and modern utilities dominating the cityscape, it is still evident that Buddhism has an influence on Cambodian culture. This is due to the fact that around 79% of the population lives in rural communities where monks and Buddhist rituals are still a part of everyday life and conceptions of the world (Harris, 2008).

Although it was beyond the scope of this thesis to conduct a thorough examination of Buddhism's role in shaping Cambodians' conceptions of nature, wildlife and nature conservation, it was necessary to review generally how Buddhism teaches these concepts. It is clear that Buddhist teachings on nature are an important cultural context to consider when analysing the responses to questions of nature conservation, as nature and respect of nature and all living things is a large part of Buddhist teachings (Batchelor & Brown, 1992; Harris, 2008; Singh, 2011).

As displayed by the billboard in Figure 3, government, NGOs, and religion are three key institutions that influence the dialogue surrounding nature and around values regarding nature conservation. Nature conservation in Cambodia is the result of international intervention and historical, religious, and ancestral values on nature and stated government priorities, none of which are mutually exclusive. This point was argued by Reimer and Walter (2013) who, when discussing ecotourism in the Cardamom Mountains of Cambodia, mention a similar billboard that was erected in the village showing Buddha sitting under the Bodhi tree with the caption: "Buddha was born under a tree, enlightened under a tree, and died under a tree. Therefore we must preserve trees". These billboards are funded by NGOs, approved and supported by the government, and relate to Buddhist values and stories; they illustrate the alignment of these three institutions in promoting culturally specific environmental values. These are complex cultural messages that rely on the assumption that Buddhist values are societal norms that would be respected by all individuals.

**Figure 3: Billboard with Buddha figure and logger saying – "Please Protect the Forest", "Donated by Malop Baitorng Organization" source: http://www.sreisaat.com/**

## 2.6 Nature Conservation

### 2.6.1 The field of conservation biology

Conservation biology is a field that is constantly changing, growing and developing (Meine, Soule, & Noss, 2006). It found its current definition in the 1980s as an interdisciplinary, *crisis-oriented* field that "focuses on understanding, protecting, and perpetuating biological diversity at all scales and all levels of biological organization" (Sodhi & Ehrlich, 2010, p.22). Nature conservation is the practice of this definition, which traditionally involves the physical and biological sciences as well as resource management, but more recently has expanded its scope and agenda to include the realms of the humanities, the social sciences and ethics (Sodhi & Ehrlich, 2010). As discussed by Soulé (1991), Masi (1994) and Ehrenfeld (1995), conservation biology and the practice of conserving nature is not a value-free endeavour. At its core is an agenda to sustain environmental integrity through the conservation of biodiversity (Barry & Oelschlaeger, 1996).

### 2.6.2 Conservation in practice

The cornerstone of nature conservation lies in the establishment of protected areas (PA). Current estimates of the global coverage of PAs range from 11% to 12.9% of the world's land surface (e.g. (Chape, Harrison, Spalding, & Lysenko, 2005; Jenkins & Joppa, 2009; Soutullo, 2010; Soutullo, De Castro, & Urios, 2008). The International Union for Conservation of Nature (IUCN) defines a protected area as: "An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural associated cultural resources, and managed through legal or other effective means" (IUCN/WCMC, 1994). Within this definition the IUCN developed management categories for PAs (see Table 1) in order to increase understanding and promote awareness of protected areas' purposes. When a PA is established it is intended that the host country will specify which category they intend to use.

**Table 1: IUCN Categories for Management of Protected Areas (IUCN, 1994)**

| Category | Description |
|---|---|
| I | Strict Nature Reserve/Wilderness Area: Protected area managed mainly for science or wilderness protection. |
| Ia | Strict Nature Reserve: Protected area managed mainly for science. |
| Ib | Wilderness Area: Protected area managed mainly for wilderness protection. |
| II | National Park: Protected area managed mainly for ecosystem protection and recreation. |
| III | Natural Monument: Protected area managed mainly for conservation of specific natural features. |
| IV | Habitat/Species Management Area: Protected area managed mainly for conservation through management intervention. |
| V | Protected Landscape/Seascape: Protected area managed mainly for landscape/seascape conservation and recreation. |
| VI | Managed Resource Protected Area: Protected area managed mainly for the sustainable use of natural ecosystems. |

Nature conservation is generally considered to be a western-construct (Cater, 2006), although many countries and cultures have ethics on how one should interact with the environment (e.g. (Patterson, 1999). Particularly in the continent of Africa, where colonization put severe pressure on wildlife populations through excessive trophy hunting, protected areas and reserves were established to then counter the damage done by hunting. The concept of partitioning off an area from farming or other land uses was foreign and rejected by many rural communities because the values behind the conservation initiatives were not their own (Akama, 1996). Creating parks was a way western colonizing nations could understand how to protect populations so that continued hunting was possible. Through the establishment of the first 'true' national park in 1872 with Yellowstone in the United States, the model was created and then replicated around the world, and particularly encouraged in the developing world where swaths of undeveloped land was still available for wildlife.

Despite this direct relation to western constructions of nature protection, the concept of protected areas is thought to also have a long history globally; historians claim that areas were set aside in India for protection of nature resources over two millennia ago (Holdgate, 1999). Many communities also have their own terms for protection of special areas such as in the Pacific called "tapu" areas (Eagles, McCool, & Haynes, 2002).

In addition, within and outside these protected areas specific, tailored projects are also implemented to conserve and protect certain endangered species and/or threatened ecosystems. An example of this type of nature conservation in Cambodia is a project funded by a NGO, which implemented a Birds Nest Protection program in order to incentivize the nest protection of the globally threatened large birds found on the Northern Plains (Clements et al., 2010).

### 2.6.3 Conservation dilemmas and new strategies

The establishment of protected areas has always been a political issue (Adams & Hutton, 2007). Whether it is government institutions, local communities, or NGOs lobbying for the establishment of protected areas or conservation action, politics will be involved. As discussed in Adams & Hutton (2007), the political ecology of biodiversity conservation reveals that throughout the history of conservation there have been losers, whether they are local communities losing access to forests for resources or private companies prevented from reaping profit from felling the valuable trees. But there are also many nonmonetary benefits which the Millennium Ecosystem Assessment (MEA) has identified including: provisioning services such as food, water, timber and genetic resources; regulating services such as waste treatment or the regulation of climate or flooding; cultural services such as recreation and aesthetic enjoyment; and supporting services such as soil formation, nutrient cycling and plant pollination (World Resources Institute, as cited in Adams, 2007).

In the capitalist-driven western world the issue that many of these benefits are not monetary is a dilemma for conservation. How could we expect to conserve nature if no one *directly* and *financially* benefits and instead incurs potential losses? As most NGOs are based in western, developed countries (i.e. USA, UK, Australia) a market based solution eventually was developed. A popular strategy in recent years has been the establishment of payment for ecosystem services (PES) schemes, particularly for implementation in the developing world, allowing these ecosystem services to be converted into "streams of revenue" (Adams, 2007, p.160). Direct payments for biodiversity conservation are essentially "contracts whereby custodians of natural resources are rewarded for biodiversity protection" (Milne & Niesten, 2009, p. 530). This has been recognized as a desirable alternative for nature conservation investment but there are also local, contextual realities that make paying individuals for maintaining biodiversity potentially infeasible (Milne, 2009).

Developing countries like Cambodia tend to have weak institutions and infrastructure to execute conservation, especially projects that require enforcement, monitoring, and legitimacy (Clements et al., 2010). Implementing projects, particularly ones with payments involved, can be challenging when cultural issues conflict and power groups can quickly undermine the effort. Milne (2009; 2012) describes how payment projects, including ones like Reducing Emissions from Deforestation and forest Degradation (REDD), run into difficulties when property rights are not clear and certain and while land concessions are a prominent reality (Milne, 2012; A. Schneider, 2011).

## 2.7 Nature Conservation in Cambodia

Along with the PES schemes described above, Cambodian nature conservation is made up of PAs and other NGO or government run conservation projects (IECM, 2003). Cambodia first defined its PAs in a 1993 Royal Decree, and has since issued more detailed guidelines on how the country's protected areas must be managed in the form of the 2008 Protected Areas Law. Cambodia's protected areas are under

the administration of the Ministry of Environment (MoE) under the Department of Nature Conservation and Protection (San, 2006).

The 2008 Protected Areas Law defines the framework of management, conservation, and development of protected areas and aims to "ensure the management, conservation of biodiversity, and sustainable use of natural resources in protected areas" (Protected Areas Law 2008, Articles 1 & 6). Similar to the categories the IUCN developed, the 2008 Protected Areas Law introduced a new system of zoning in order to more effectively manage Cambodia's conservation aims and the development of protected areas. According to the law, protected areas are to be demarcated into the following four zones (Protected Areas Law 2008, Article 11):

• Core Zone: areas of high conservation value containing threatened and critically endangered species and fragile ecosystems. Access to Core Zones is prohibited except for Nature Conservation and Protection Administration officials and researchers who conduct nature and scientific studies for the purpose of preservation and protection.

• Conservation Zone: areas of high conservation value containing natural resources, ecosystems, watershed areas, and natural landscape located adjacent to the core zone. Access to the zone is allowed only with prior consent of the Nature Conservation and Protection Administration. Small-scale community uses of non-timber forest products (NTFPs) to support local people's livelihood may be allowed under strict control, provided that they do not present serious adverse impacts on biodiversity within the zone.

• Sustainable Use Zone: areas of high economic values for national economic development and management, and conservation of the protected area itself.

• Community Zone: areas reserved for socio-economic development of the local communities and indigenous ethnic minorities.

According to the law, no clearance or building is allowed in the Core or Conservation Zones, and any development within the Sustainable Use or Community Zones can only take place with the appropriate approval from the Government at the request of the MoE (Protected Areas Law 2008, Articles 36 & 44).

## 2.8 How Cambodians Interpret Nature Conservation

Several studies have been conducted in Cambodia that examine how communities participating in, or living nearby a conservation program feel about the project (e.g. Bith, 2011; Lo Cascio & Beilin, 2010; Clements et al., 2010; Daltry et al., 2010; Mendoza, 2006; San, 2006). In particular, these projects are designed to directly benefit or engage the community while also meeting a conservation goal. Such projects include ecotourism, sustainable agriculture, or direct payments for ecosystem services. Relating to these studies and programs it is frequently revealed that individuals are divided and generally

confused or misinformed regarding the benefits or the purpose of the conservation project. For example, ecotourism projects aim to contribute to the conservation of biodiversity by incentivizing communities to cease logging and poaching in their forests in return for income generated from tourism. Some community members benefit directly from ecotourism, whether from owning a shop or a guesthouse, while others who do not see direct income generation from ecotourism do not typically recognize, or experience the value of the project. Those individuals tend to want to see the benefits distributed more extensively, even when they might already be experiencing knock-on effects of which they are not aware (Bith, 2011; Mendoza, 2006).

These studies are valuable to the future of conservation in Cambodia; they identify weaknesses and strengths and provide feedback to conservation practitioners. They also offer an opportunity for communities to voice their concerns and engage further with conservation action.

## 2.9 The Illegal Wildlife Trade

> *Despite the vast gaps in our knowledge of the true scope and scale of illegal wildlife trade, the best available evidence points to Southeast Asia as a hub of illegal activity* (Rosen, 2010, p. 29).

The illegal wildlife trade in Southeast Asia is worth between 8-10 billion USD annually (Deeks, 2007). This dollar figure and volume of species traded does not even include the approximate 21 billion USD worth of legally traded wildlife that are reported through the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The legal wildlife trade alone is already a threat to conservation of many species (Nijman, 2010), but undoubtedly the illegal wildlife trade going on in addition to the regulated trade is a major threat to nature conservation efforts in general.

As noted by Rosen (2010) a large portion of the seized illegal wildlife originates from Southeast Asia, en route to China, the United States and the European Union (Rosen & Smith, 2010). Wildlife consumption ranges from medicinal purposes to delicacies, to research and personal zoos (Rosen & Smith, 2010; J. Schneider, 2008). The illegal wildlife trade is understood to be a segment of organized crime and frequently uses similar routes of dispersal as are used in the illegal narcotics and illegal weapons trade (Zimmerman, 2003). It is presumed to be second only to narcotics and has been known to incite violence and corruption (Zimmerman, 2003).

Combating the illegal wildlife trade is dangerous and difficult, particularly in countries such as Cambodia where adequate levels of infrastructure, law enforcement, and necessary funds do not exist (Schneider, 2008). The persistence and growth of this illegal trade though is a significant threat to nature conservation, considering the majority of species victimized by the trade are from biodiversity hot spots where ecosystems depend on the species to maintain their functionality (Fonseca & Ganade, 2001).

Cambodia is a signatory to CITES and makes an effort to intercept and penalize individuals who poach and sell illegally captured wildlife. Cambodia's Forestry Administration and Military Police work with rangers as well as informants to identify perpetrators and confiscate their contraband prior to it leaving the country (Wildlife Alliance, 2012). Their work would not be possible though without the support of NGOs that aid the teams by providing financial and technical assistance. The Cambodian government also owns the Phnom Tamao Wildlife Rescue Centre where animals that are confiscated from the illegal wildlife trade can be taken if they are not suitable for release. This establishment also receives significant support from NGOs as well (Wildlife Alliance, 2012a; Free the Bears, 2012).

## 2.10 Wildlife Rescue and Conservation

Wildlife rescue and rehabilitation play a vital role in both environmental education and nature conservation. The Phnom Tamao Wildlife Rescue Centre provides a space for animals that are victims of the illegal wildlife trade to survive and/or be rehabilitated for release into the wild. Wildlife rescue centres also provide opportunities for captive breeding programs that replenish the species whose numbers have significantly decreased as a result of the illegal wildlife trade, as well as from loss and degradation of their habitat.

Wildlife rescue centres are important for public education. They educate the public on the native fauna as well as promote the protection of these species from the illegal wildlife trade. They achieve these aims by using rescued animals as examples of what the illegal wildlife trade can do to its victims, considering there are usually animals at these locations that have been maimed by poachers (e.g. Chouk, the bull Asian elephant at Phnom Tamao Wildlife Rescue Centre whose leg was lost from a poacher's snare and now wears a prosthesis) (Wildlife Alliance, 2012). Rescue centres also offer a venue for discussion about the damage the illegal wildlife trade has on Cambodia and how it can cause everything from local extinctions to ecosystem failure (Fonseca & Ganade, 2001; Larsen, Williams, & Kremen, 2005; Lyons, Brigham, Traut, & Schwartz, 2005).

Much has been published on the value of rescue centres and zoos in educating the public (e.g. (Bagarinao, 1998; Castro, 1995; Jeremy, 2003; Price, Vining, & Saunder, 2009; Zareva-Simeonova, Zlatanova, Rachera, Angelov, & Asenova, 2009). And although many of these studies are from locations not limited to western nations, Cambodians' relationships to their rescue centres had yet to be examined.

Wildlife rescue is the convergence of wildlife conservation and wildlife welfare. It addresses both the need to care for endangered and threatened species for conservation purposes, while also accomplishing animal welfare goals, including care and removal from harmful situations. Rescue and rehabilitation centres, where wildlife are taken when they cannot be released after confiscation, aim to provide veterinary care for injured or sick animals as well as a natural and safe location for them to recover or live out the rest of their days (e.g. Wildlife Rescue and Rehabilitation, 2012).

Wildlife rescue is a key part of halting the illegal wildlife trade for two reasons; first, when animals are confiscated the perpetrator is usually fined and has lost their bounty, costing them the income lost and the fee (Wildlife Alliance, 2012b). Second, the species that were at risk of death can be transferred to a safe habitat where they can be released or to a rescue centre where they can be rehabilitated for release or, if they are not suitable for release, can be cared for indefinitely.

Many of these establishments also act as zoos in that they are open to the public and have signage identifying the species in the respective enclosures. This provides an opportunity for public education and other conservation activities, which will be described below.

## 2.11 Sanctuary and Zoo Roles in Education and Conservation

> *Due to their unique settings, zoos have indubitable role in teaching vast amount of people each year about the secrets and miracles of life. According to the World's Zoo Strategy, zoos have four main purposes and goals: 1) Recreation, providing a "green touch"; 2) Education about the diversity of life; 3) Research on wildlife using the captive facilities for studies not possible in nature and 4) Conservation of endangered species for which only captivity can provide shelter.* (Zareva-Simeonova, 2009, p.19)

Sanctuaries and zoos allow for non-formal education (Price et al., 2009). Visitors are able to learn about their native wildlife, and in some cases international wildlife, while enjoying a recreational activity with family or friends. Although there is substantial variation between quality and extent of signage in different zoos, parks, and rescue centres around the world, at the very least these places provide a visual reference for species that are not usually seen on a daily basis, or taught in formal educational settings.

These institutions also contribute to conservation efforts by providing a place for rescued wildlife to recover, for endangered species whose habitat is degraded or destroyed to survive, and opportunities for captive breeding programs to be developed (FFI, 2012). They also provide a venue where conservation education can be presented and discussion on threats to the species can be held (e.g. Project Wildlife, 2012).

Many studies have been conducted to examine the benefits and importance of informal education through zoos and rescue centres (Bagarinao, 1998l; Castro, 1995; Jeremy, 2003; Patrick, 2007; Prince, 2009). These studies touch on the multi-faceted benefits these institutions provide to public education, conservation of endangered wildlife, and green open spaces for recreational activities. This study used the Phnom Tamao Wildlife Rescue Centre as a point of reference and a contextual example of conservation for participants. It also provided a location in close proximity to the capital city whereby people from a range of demographics and backgrounds could be interviewed, from individuals living in the protected area to those living in the city. Phnom Tamao is a well-known institution and the protected area around it is the closest one from Phnom Penh. Since it was not assumed that everyone would know

objectively what nature conservation was, beginning the conversation by talking about PTWRC provided a familiar starting point to talk about conservation more generally. Anecdotally, PTWRC is a popular place for Cambodians to visit to see animals and relax in the shade of trees. Its notoriety is what this study took advantage of as an opener and contextual reference for participants.

## 2.12 Summary

Chapter 2 has provided the contextual background information necessary for this study. It provided a brief review of the Kingdom of Cambodia, its history, its demographics and its geography. It also introduced the political ecology that is relevant for examining environmental issues in Cambodia including the role of the government and its experience with external pressures. The chapter then talked about the role of NGOs and Khmer culture as well as how the different institutions are all aligned when referring to environmental values. It provided the background on how nature conservation is currently playing out in Cambodia. The chapter also addressed the relevant threats to nature that Cambodia experiences such as the illegal wildlife trade.

Chapter 2 concluded by talking about the institutions that are in place to try and combat the illegal wildlife trade, namely wildlife rescue and conservation, which includes sanctuaries and zoos. Lastly, the chapter discussed those establishments and their role in education and conservation. Overall, this chapter sets the context for the study by highlighting the role of these different concepts in forming the dynamic in Cambodia relevant to this research. The interconnectedness of the institutions, the exterior pressures on Cambodia's natural resources and the current practices of conservation all play into the scenario of nature conservation in Cambodia and influenced the results of this study. Being familiar with the historical and current realities of the country is vital to understanding and analyzing the data that came from the interviews.

Additionally, in order to process the data, an appropriate theoretical framework was necessary. In the following chapter an overview of the framework utilized for this study will be presented. Using the theoretical framework described below in consideration of the context described above provided the support necessary to process the results found in this study.

# Chapter 3

# Theoretical Framework

## 3.1 Introduction

A theoretical framework is utilized in order to provide a basis of knowledge to aid the researcher in navigating through the research process and data analysis. By mapping out the theoretical frameworks applied to this research, an examination of the foundations can be conducted that will help illuminate the researcher's thought process or 'vision' through the collection and analysis of the data. The overarching theoretical framework used in this study is social construction theory (SCT) (Berger & Luckmann, 1966).

This chapter examines the history and relevance of SCT while also further examining relevant sub-concepts important for this study namely: ethnomethodology, the literature surrounding the contentious points of realism and relativism; the coproduction of nature and society versus a dichotomy of nature and society; and the value of social construction as an approach.

## 3.2 Social Construction Theory

The notion of social construction is a highly debated concept that has made itself applicable to many different disciplines. The theory can be traced to its interpretive roots in social sciences (Berger & Luckmann, 1966; Blumer, 1969; Goffman, 1959, 1963; Levin & Levin, 1987). It is principally concerned with explicating how people describe, explain, or account for the world in which they live (Cheung, 1997). According to Carle (2007) SCT is a tool for better understanding the complex, messy, real world. It accepts as its starting point that 'reality' is not a fixed pre-existing awaiting discovery but rather is dynamic and constantly in a state of production. In other words, the 'reality' we know does not pre-exist our perception and understanding of it.

Many researchers have used the metaphor of an optical lens to describe how SCT can prove useful (e.g. Berngartt, 2004; Carle, 2007; McCallum, 2003). The concept of a lens helps the researcher understand the existence of different lenses that participants use to view and interact with the world around them -- in this case, how they interpret and enact nature conservation in Cambodia. SCT helps the researcher observe the different lenses or frames of references that might exist around a topic.

In order to fully understand this theory, a brief history of its development is outlined below, including some of its key components. This thesis does not attempt to provide an exhaustive summary of the history of SCT but aims to outline the origins of SCT as they relate to this study.

## 3.3 Origins of Social Construction Theory

> *Common-sense 'knowledge' rather than 'ideas' must be the central focus for the sociology of knowledge. It is precisely this 'knowledge' that constitutes the fabric of meanings without which no society could exist. The sociology of knowledge, therefore, must concern itself with the social construction of reality.* (Berger and Luckmann, 1966, p. 27)

SCT emerged as part of a 'post-positivist', if not 'post-modern', critique of knowledge systems (Carle, 2007). Post-modernism is generally considered to have emerged since the 1960s; although Crotty (1998) claims that post-modernist concepts had been entertained long before that. Postmodernism in general is largely a reaction to scientific and claimed objective efforts to explain reality (Aylesworth, 2012). The concept of constructivism emerged from two larger fields, sociology and psychology, and has evolved (and is still evolving) through different applications; applications which, according to Hacking (1999), are sometimes misappropriated (Hacking, 1999). One main component of constructivism, stemming from sociology, was found in symbolic interactionism.

### 3.3.1 Symbolic interactionism (SI)

SI was introduced by Herbert Blumer in 1937 (Blumer, 1969). The three principles that SI focus on which were subsequently borrowed to establish constructivism are: i) human beings act toward things on the basis of the meanings that the things have for them in their daily lives, ii) that the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows, and iii) that these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he/she encounters (Blumer, 1969).

> *Symbolic interactionism posits the idea that we each have a self that we interact with in a social way (not a psychological way), like a soliloquy. This conversation with our 'self' is how we confirm or adjust our own personal meanings with that of others in the relevant social group. But we need to know the whole script, not just our own part, in order to understand the social group/institution perspective. Just as the individual may adjust meanings, so too can this individually adjusted meaning then feedback and alter the group meaning. In this way knowledge and meaning is both individually and socially constructed* (McFarlane, 2011, p. 13).

As McFarlane (2011) argues, this concept leads into social construction theory. Individuals, as a part of a collective group develop social norms and relevant meanings for the world around them. In other words, they socially construct their own reality in relation to others. A key message drawn from symbolic interactionism that relates to Cambodians' interpretation of nature conservation and the subsequent actions taken toward nature is that, according to Blumer's (1969) conceptual perspective, people act toward things on the basis of the meanings they have for them. Depending on how individuals socially construct an object or concept or idea impacts the action that will be taken towards it, and these meanings are derived through social interaction and expressed symbolically through language and iterative talk or discourse.

### 3.3.2 Ethnomethodology

Ethnomethodology is an ethnographic approach to sociological inquiry introduced by the American sociologist Harold Garfinkel. Ethnomethodology's research interest is the study of the everyday methods that people use for the production of social order. Ethnomethodology's goal is to document the methods and practices through which society's members make sense of their world (Garfinkel, 1967).

> *Ethnomethodology attends to the commonsense practices, procedures, and resources that persons use to produce and recognize mutually intelligible objects and actions in the life world.* (Garfinkel 1967, Heritage 1984 cited in Holstein, 1993, p. 14)

Ethnomethodology can be applied as part of a social constructivist project. Aspects of the ethnomethodological perspective are found in the work of Spector and Kitsuse with social problems. These studies in particular focus on the talk and interaction related to social problems. As discussed in Holstein (1993, p. 16)

> *[e]thnomethodological studies include in-depth, ethnographic studies of interaction in social institutions, highly detailed analyses of transcripts of conversations, and abstract studies of such issues as the natural attitude, the documentary method of interpretation, and reflexivity.*

These principles are applicable to the study of how Cambodians conceptualize nature conservation in their community, by allowing for an ethnographic exploration into how these factors influence responses related to the topic.

### 3.3.3 Ontology and epistemology

Ontology, as briefly stated in Hinchcliffe (2007), is ways of being, or enacting what is. Epistemology as noted in Hinchcliffe (2007) is ways of looking, what is known about something. Ontology therefore deals with questions concerning what entities exist or can be said to exist. Epistemology questions what knowledge is, how it is acquired, and the possible extent to which a given subject or entity can be shown.

These two philosophical principles are typically combined because once one is asking questions about what exists (ontology) the question lends itself to investigate how that knowledge about what exists is acquired.

> *Ontology is different to epistemology because it aims to focus on the underlying causes and structures of change. But questions of ontology will inevitably also have to consider questions of epistemology in seeking an explanation of physical changes* (Forsyth, 2003, p. 15).

Fundamentally, when examining how something is constructed we are investigating the ontologies and epistemologies behind the subject. What these concepts mean for this research is that every culture and indeed even every individual potentially has differing ontologies, alongside varieties of ways of knowing. Part of unearthing meaning involves the exploration of these philosophies.

### 3.3.4 What is Social Construction Theory?

SCT can be most clearly understood through its theoretical approaches. As Hacking (1999) summarizes, there are four (or sometimes three as 1 and 2 below can be combined) levels of what social construction theories attempt to reveal about a topic (X):

1) In the present state of affairs X is taken for granted; X appears to be inevitable.

Social constructivist texts regularly begin with something that is regarded as self-evident, a taken-for granted truth. The very point of social constructivism is then to prick a hole in this self-evidence by going further and showing that:

2) X need not have existed, or need not be at all as it is. X, or X as it is at present, is not determined by the nature of things; it is not inevitable.

This gives the 'aha experience' which is the main point of social constructivists texts. Many – though far from all – social constructivist texts then take one or two steps further, first to observe that:

3) X is quite bad as it is.

And then to:

4) We would be much better off if X were done away with, or at least radically transformed.

In Hacking's outline of the social construction, he gives three categories of what X might be: objects (such as people), ideas (such as classifications of those people), and elevator words (things that bring discussions to a different level than words for objects such as truth, reality and knowledge) (Hacking, 1999 cited in Berngartt, 2004).

## 3.4 Debates in Social Construction Theory

SCT has been subjected to criticism and debate. The main discussion point rests on the extremes of two sub theories, strict or strong constructivism, also known as relativism, and realism. Although Crotty (1998, p. 64) dismisses this debate stating that "social construction should not contrast with 'realism'; social construction does not confine reality in the same way idealism does. Idealism is the philosophical view that what is real is somehow confined to what is in the mind, that is, it consists only of 'ideas'". Idealism, therefore, according to Crotty, is the debatable contrast to realism, but for the purposes of illuminating the discussions that exist around social construction, namely the realism versus relativism debate, which is recognized by many other claims-makers, as the relevant contrast, this will be discussed below. I will also address the appealing middle ground – moderate constructivism.

### 3.4.1 Realism versus relativism

Realism, according to Crotty (1998, p. 10), is "an ontological (nature of existence) notion asserting that realities exist outside the mind." In apparent contrast to realism is relativism, which is the concept that there exists no absolute truth or validity, that some central aspect of experience, thought, evaluation, or even reality is relative to something else, such as culture, language, or experience (Swoyer, 2010). Relativism even claims that science and scientific research methods are subjective, as there are no objective truths. Acknowledging these two extremes helps to navigate a way to which both sides can be used productively. This debate is a common one when considering social construction, as it tends to lead to a compromise that is a social construction itself. As stated by Crotty (1998, p.63) social constructivism is "at once realist and relativist".

This concept was metaphorically explained by Stanley Fish (New York Times, 21, May 1996) in Crotty, (1998, p. 63) stating that "It is no contradiction to say that something is socially constructed and also real". He described a situation in baseball whereby the concepts of "balls" and "strikes" are themselves a social construction, but they are also most certainly real. They are essentially constructions and could potentially change, but nonetheless they are real. Additionally, as argued by Irwin (2001, p. 16)

> *[e]xpressed very crudely, 'realists' have been critical of what they sometimes represent as the empty and misplaced theorizing of constructivists. Equally, the realist charge has been that by undermining the reality of environmental problems, constructivists fail to develop an adequate analytical framework, and ultimately deny the separate existence of the natural from the social. Constructivists have suggested in response that realist approaches miss out on one of the most important aspects of environmental debate: the manner in which particular issues rise to prominence and are seen to be 'real'. Constructivists also argue that their accounts bring more rather than less 'reality' to environmental problems – and especially in terms of the social and institutional processes that lead to their emergence.*

Therefore, there are aspects of reality that are objectively "real", such as the deforestation in Cambodian rainforest, but intertwined with those objects, concepts and topics are socially-malleable relative constructions; which are imposed by humanity and culture. These could include the conceptions and the interpretation of the environmental changes, and meaning attributed to the forests and how such meaning contributes to how people interact with the forest.

### 3.4.2 Critical realism

Established in the 1970s by Roy Bhaskar (1975), critical realism has been suggested to be a successor to social constructivism (Losch, 2009). Originally Bhaskar developed a general philosophy of science described as "transcendental realism" and a philosophy of human sciences that he called "critical naturalism". Gradually Bhaskar hybridized the terms into "critical realism" (Losch, 2009). Critical realism, as it is understood today, aims to be a more theoretical substitute for positivism and social

constructivism. Critical realists claim that social constructivism is too superficial and too imprecise to be useful in examining society and science (Alvesson & Skoldberg, 2009). Similar to social construction, critical realism was born out of a reaction against positivism and empirical science and is part of so-called "postmodern" critiques. Critical realism argues that science should be understood as an on-going process rather than an identification of a coincidence between a postulated independent and dependent variable. But critical realism still maintains that examinations into the social reality can be approached with positivist, scientific methods and makes strong assumptions of underlying structures in society (Alvesson & Skoldberg, 2009).

The divisions highlighted between critical realism and social constructivism appear to be more representative of extreme constructivism expressions. Moderate constructivism, which will be discussed below, allows for a more interactive role between 'objective' reality and social interpretations. Since social construction is a broad framework which allows for many different varieties to be utilized, it is therefore at this point more frequently used. For the purposes of exploring a social relationship to a nature-based concept (nature and nature conservation) this study employed a moderate constructivist framework that utilized qualitative research methods, including semi-structured and key-informant interviews.

### 3.4.3 Moderate constructivism

> *There is an objective reality to social problems* (Eitzen, 1984 cited in Holstein, 1993, p. 8).

Strong constructivism is more closely aligned to relativism and has therefore been met with more criticism, but for the purposes of this research a more moderate constructivism is utilized. This moderate constructivism accepts that external realities exist in nature, but that individuals influence that reality with their constructions of it. The following sets out some key characteristics of SCT:

1) Importance of social processes in shaping the world and the people in it (Cromby & Nightingale, 1999).

2) Belief that these social processes are specific to particular time and culture (Braun & Wainwright, 2001).

3) Belief that knowledge and activity are intertwined (Cromby and Nightingale, 1999).

The first characteristic revolves around 'social processes'. These frequently involve language and discourse. Therefore, typically, it is these interactions that focus on using qualitative interviews and discourse analysis (Berngartt, 2004). Second, the idea that social processes are specific to time and culture is particularly relevant to consider when attempting to examine another culture from one's own. In doing research in Asia, it is vital to understand that there are diverse ways of knowing, or as Crotty (1998) puts it, "distinguishable sets of meanings", as well as separate realities. Lastly, and perhaps most

important to this thesis and for the relationship of social science and nature conservation, is the belief that knowledge and activity are intertwined, meaning that how people express what they know directly relates to what action could be taken on that subject. This perspective does not deny the existence of the material world or undermine the role of the natural sciences in understanding it. Rather, it draws attention to the social contexts and meanings attributed to the material world (which can be influenced by the natural sciences, NGOs and government as well), which, in this case, can influence people's responses to questions regarding nature and nature conservation.

## 3.5 Social Construction of Nature

> *… there is no singular 'nature' as such, only a diversity of contested natures; and that each such nature is constituted through a variety of socio-cultural processes from which such natures cannot be plausibly separated.* (Macnaghten, 1998, p, 1).

The social construction of nature (SCN) concept was developed from the broader field of social construction theory (described in sections 3.1 – 3.4). The approach itself, as with SCT, is not definitively defined but primarily aims to explore how humans give meaning to the physical world and the effects this has on humans' relationship to the Earth as well as the Earth's influence on humans (N. Castree & B. Braun, 2001; Demeritt, 2002; Hannigan, 1995). Some recent applications of this approach include Cronon (1995) examining the concept of wilderness; Scarce (2000) examining biologists' social construction of salmon; Berngartt (2004) exploring the frames of reference around the Himalayan tahr; McCallum (2004) using social construction of nature to better understand community environmental management; Carle (2007) unpacking how salmon are framed in New Zealand; as well as McFarlane (2011) looking at the social construction of New Zealand's high country.

In order for this research to provide relevant and useful information to key stakeholders a SCN approach was taken to further unveil the social, cultural, environmental, and economic understandings of nature and nature conservation in Cambodia.

### 3.5.1 Conceptualizing nature

> *… the term 'nature' is perhaps the most complex and difficult word in the English language, the idea of nature contains an enormous amount of human history; our current understanding of nature derive from an immensely complicated array of ideas, linked to many of the key concepts of western thought, God, Idealism, Modernity, Society, the Enlightenment, Romanticism …* (Williams 1972, 1976, cited in Macnaghten, 1998, p. 8)

A Western history of humans' relationship and construction of nature is readily available and has been explored by authors such as William (1972), Macnaghten (1998), Castree and Braun (1998). A brief synopsis of the progression of nature is most easily seen in the movement from Romanticism to the Enlightenment, from cosmology, or a life-giving force to dead matter (Williams, 1972 cited in

Macnaghten, 1998). With God and Modernity, nature became a set of laws, cases, and conventions. God was removed from nature and became detached, above and overlooking the Earth.

As discussed by Macnaghten (1998) western ideas about nature have stemmed from our literary and cultural history with nature. These constructions of nature "had major consequences for the relationship between forms of social activity and a state of nature" (Macnaghten, 1998) p. 11). Williams (1972) as expressed in Macnaghten (1998) argued that the separation of nature from society was a prerequisite for practices dependent on constituting nature instrumentally: a set of passive objects to be used and worked on by people. "Modernity involved the belief that human progress should be measured and evaluated in terms of the domination of nature, rather than through any attempt to transform the relationship between humans and nature" (Macnaghten, 1998, p. 11).

It is argued by Castree and Braun (1998, p. 34) that

> *[n]ature is multiple; its social production proceeds according to no single temporality, occurs with no one underlying logic, follows no unified plan. Accordingly, struggles over the social production of nature are multifaceted; they occur at various levels, involved a large cast of actors (not all of which are human), and follow a plurality of social and ecological logics that cannot be reduced to a single story.*

Therefore understanding what nature means to a community or to a culture is complex and, as expressed by Macnaghten, (1998, p.19), "[w]hat is viewed and criticized as unnatural or environmentally damaging in one era or one society is not necessarily viewed as such in another." In other words, an answer to the question, "what is nature?" is dependent on social context and time.

In Southeast Asia, Buddhism would possibly be the most influential institution on concepts of nature historically. Yet, Western historical and scientific conceptions of nature are also relevant as many of the conservation efforts in the region are influenced by Western organizations and agencies. "[T]he emergence of global institutions such as the UN and the World Bank, the globalising of environmental groups such as the WWF, Greenpeace and Friends of the Earth, and the emergence of global media conglomerates have all helped to foster something of a new global identity in which environmental processes are increasingly identified as global and planetary" (Macnaghten, 1998, p. 22). As Macnaghten points out, these institutions play a key role in the development of ideas that mobilize nature conservation.

Part of understanding the social construction of nature by any community or human group requires an examination of how individuals construct their relationship *to* nature. As has been discussed by many western geographers, psychologists, sociologists, environmentalists, and ecologists, somehow the "social" has frequently been kept separate from that which is "natural". Hinchliffe (2007) explored this dichotomy in his book *Geographies of nature: societies, environments, ecologies*. He organized the following conceptions of nature. First, nature is seen as an independent state, with nature and society as

separate spaces, and nature as 'out there'. On this basis nature is beyond us (Hinchliffe, 2007). The second formulation is that nature is completely 'dependent' on humans – and constructed all the way down. These two dichotomies are reminiscent of the realism and relativist debate, the latter example representing the relativist point of view. But what prevails in Hinchcliffe's book is the concept of co-development or the coproduction of nature and society. This is, essentially, the middle-ground between independent and dependent nature, similar to what a modest social construction is to the realism/relativist discussion.

> *The concept of coproduction does not imply there is no "external reality" or biophysical world that exists beyond human experience. But it does mean that knowledge about such a biophysical world cannot be separated from social influences, and particularly from how society is clustered and organized* (Forsyth, 2003, p.104).

### 3.5.2 Coproduction of nature and society

The concept of coproduction of nature and society as discussed by Hinchliffe encourages the idea that nature and society do not need to be segregated in the manner that they have been, and that in fact "nature is the foundational bedrock to which culture brings a series of secondary inscriptions" (Wilson, 1996, p. 58 as cited in Hinchliffe). Going a step further Latour (1993), maintains that the world is composed not of entities which are 'purely social' or 'purely natural', but of 'hybrids' which contain complex associations of social, technological and natural characteristics (Latour 1993 as cited in Burgess, Clark, & Harrison, 2000). Relating to nature conservation, Hinchliffe (2007) discusses how, due to the fact that nature itself is always changing and in a state of flux, there needs to be a reconstitution of natures in order to effectively conserve anything. As with most conservation work, they are unfinished matters and cannot simply be subject to "sheltering" or rendering the present eternal. This means that since nature is constantly changing and growing that therefore, conservation itself requires a constant reconstruction of nature in order to effectively and relevantly be conserved (Hinchliffe, 2007). Management or ideas about what is desired for conservation must also be a fluid process; since change is constant adaptation is necessary to ensure ongoing success of conservation initiatives.

## 3.6 Justification for the use of SCT and SCN

In order to understand how Cambodian people interpret, conceptualize, and attach meaning to nature and nature conservation it is essential to employ theories from the social sciences. In recent years a call for bridging of the gap between science and policy, lay/indigenous knowledge and scientific findings, and generally an interdisciplinary approach to complex environmental issues has emerged (Bassett et al., 2010; Bultitude, 2012; Kermarec & Dor, 2010; Krupnik & Ray, 2007). This research attempts to continue that effort by illuminating the themes that circulate within the nature conservation community that connect the priorities of local people to that of conservation practitioners and decision makers. Exploring these themes is expected to deepen our understanding of this socio-environmental dynamic that exists in a community which, as Washington (2002) articulates, can be very complex. Specifically

she states that "[w]ithin social and cultural groups, each person has a unique life history, and therefore places personal and unique meanings on things. Because of these individualized meanings, individuals may hold several conflicting social and cultural constructions of nature that they must either balance or choose from in order to act, depending on different situations" (Washington, 2002, p.57).

Social construction and social construction of nature theory have been widely utilized in western research to help understand complex issues between society and nature. Although these examples and their findings are frequently more relevant to the dilemmas faced in the western/industrialized world, the foundations of social constructivism are suited to the exploration of any human relationship with nature. Hacking (1999) argues that humans are social creatures and that we interact and construct things through our own social lenses, from there we select particular words to describe our views. Consequently, whether you are endeavoring to unlock the meaning attached to nature in Canada, Brazil, or Vietnam, examining the social construction of said nature will be crucial to understanding this complex connection.

One important consideration when engaging in environmental discussions is the issue of 'claims-makers'. It is argued by Hannigan (2002) that part of what needs to be explored is the nature of claims, the process to make claims, the process of presenting and contesting claims, the audience that the claims are intended for, and the identity of the claim makers. Social construction theory proves useful as an analytical tool in processing these connections and identifying and explaining the different points of view that exist around an issue.

## 3.7 Summary

Chapter 3 has described the origins, debates and development of social construction theory. This chapter broke down how social constructivism has grown and changed over the decades and illuminated a range of debates that surround this topic. The framework outlined here informs the study. By breaking down the theoretical framework it is easier to visualize the researchers thought process and means of analysis. SCN theory in particular provided the opportunity to view how the participants interpreted the complex concept of nature. Internalizing the theory that nature is socially constructed helped reveal the important ways humans interact with and relate to nature. Since the conceptions and relationship to nature are so vital to the conservation of nature, SCN allows for these dynamics to be exposed, thereby informing relevant conservation practice. In partnership with a theoretical framework is an appropriate methodology and practical methods. The following chapter discusses the methodology and methods used for this study, including a common methodology and method used when working with social construction theory – discourse analysis.

# Chapter 4

# Methodology and Methods

## 4.1 Introduction

Methodology, as described by Crotty (1998, p. 3) is a "plan of action" to achieving your desired outcomes of research. It incorporates the phases, tasks, methods, and tools that are necessary to meet the research goals. This chapter sets out the importance of a methodology, what it is and how it is being deployed in this study. The methodology for this research is to apply the SCN theory (see chapter 3) and use discourse analysis (see section 4.2) to examine how conceptions of nature differ demographically and geographically. This chapter then describes the study site where this research took place, as well as the qualitative methods used. It concludes by detailing the sampling techniques and data analysis strategy.

The purpose of this study was to assess how Cambodian people – those living in close proximity to a conservation project and those who do not live nearby - interpret nature, nature conservation and wildlife rescue at the Phnom Tamao Wildlife Rescue Centre. As stated in the introduction to this study, the main aim of this research is to expose the meaning of nature conservation to Cambodian people as it relates to their social construction of nature. From there the research aims to learn how this associated meaning varies geographically and demographically. The findings aim to be informative for conservation practitioners, providing insight into how a community impacted by conservation, as well as those living far from it, conceptualize nature conservation and the issues around it.

The objectives laid out below will help guide the research to meet its aim. These objectives are:

1. To review the literature on social construction theory (SCT) and social construction of nature theory (SCN) to develop a framework for the analysis (chapter 3)
    a. To review the history of SCT and SCN.
    b. To review studies that used SCT and SCN to learn more about environmental issues.
2. To study the contextual information available regarding Cambodia's history, current development trends and conservation in practice (chapter 2)
    a. To review Cambodia's civil war and its impact on the population.
    b. To examine current livelihoods and relationships with conservation.
3. To determine what conceptions of nature conservation mean for its future implementation (chapter 5 and 6).
    a. To evaluate Cambodians in the four different target groups.

b. To identify divergence in how the different target groups, demographic groups and key-informants socially construct nature conservation.

4. Provide policy recommendations to conservation practitioners.

In order to meet these objectives and answer the two main research questions:

(1) How are communities surrounding Phnom Tamao Wildlife Rescue Centre (PTWRC) and individuals in Phnom Penh socially constructing nature conservation and the concepts that surround it, including nature, wildlife and the rescue centre itself?

(2) How does distance from the centre, relationship to the centre, and demographics influence the conception of nature conservation?

To answer these questions and achieve the research aim it was vital to apply appropriate methodological frameworks. When studying humans and how they socially construct an issue, it is necessary to use a methodology that allows for flexibility and open communication. For this study using qualitative social science research methods proved most advantageous, particularly due to language barriers and literacy limitations of participants.

Discourse analysis is simultaneously a methodology and a qualitative research method (McFarlane, 2011). Methodology fits in amongst the larger headers of epistemology and theoretical perspective, and lends itself to the establishment of methods (see Figure 4).

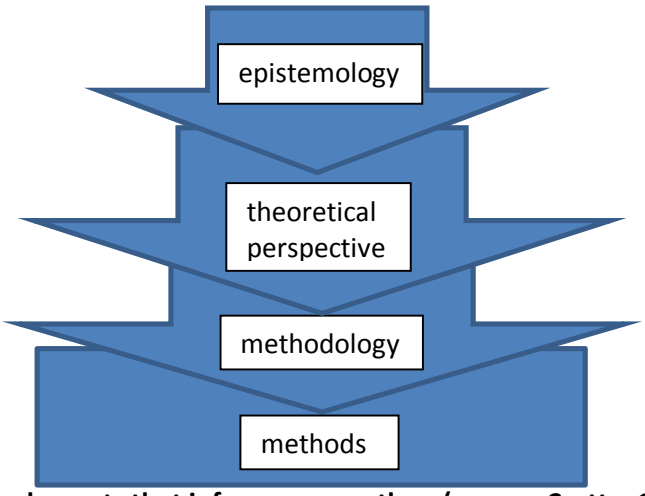


**Figure 4: Four elements that inform one another, (source: Crotty, 1998, p. 4)**

In summary, methods, as will be discussed below, are the procedures used for achieving the goals of the research. Methodology governs our choice and use of the methods; theoretical perspective explores what lies behind the methodology and epistemology informs the theoretical perspective (Crotty, 1998). This study's epistemology is constructivism, its theoretical perspective is SCN, its methodology and its method is discourse analysis.

## 4.2 Discourse analysis

> *Discourse can be said to 'construct' our lived reality* (Potter, Wetherell, & Stringer, 1984, p. 172).

Consistent with other researchers investigating society and nature (McFarlane, 2011; Carle, 2007; Berngartt, 2004; McCallum, 2003; Washington, 2002), this research adopts a discourse analysis methodology. This approach is relevant due to the nature of iterative talk that is conveyed through everything from interviews, to casual conversations, to formal meetings which can reveal the discourses around a subject. The words expressed reveal not only peoples' opinion on a topic but also their relationship to the issue. As stated by Carle (2007, p. 23) in an examination of how salmon are framed in New Zealand:

> *… the way in which discourse is presented about a particular object [whether the object is wildlife, the environment, or resources] influences the way people will construct it, and in turn affect their relationships with it, and their relationships with other actors. In short, these relationships affect the way the object is used, and therefore shapes the way it is managed.*

Discourse involves all written and spoken communications. It is an overarching concept that incorporates sequences, signs and enouncements (Foucault, 1970). Discourse analysis therefore is the process of analyzing written and vocal language use. Discourse analysis, as understood for this study, is located within the theoretical perspective of social constructivism. Utilizing discourse analysis in a social science setting tends to link the analysis of talk or text to social structures and theory (Traynor, 2004).

> *Discourses do not simply describe the social world, they categorise it, they bring phenomena into sight ... once an object has been elaborated in a discourse, it is difficult not to refer to it as if it were real,'* (Parker, 1992, p. 4-5).

The actual analysis is done through an iterative process. It first involves a thorough and immersed knowledge of the data which helps induce the production of patterns within the data. Alongside the inductive tactics is a deductive strategy that aims to code and categorize the data. Through these codes and themes within the data, results can be explained and discussions relating to similar studies or relevant literature review of context can be expanded on. As is the case with all research, the researcher inherently filters through the data with their own personal lens and social context, which is why reflexivity is necessary on the part of the researcher (Creswell, 2003).

The principle of reflexivity recognizes that as a social researcher one is influenced and subject to their social and cultural norms. Obviously while participating in social research it is impossible to divorce oneself from the social world. Reflexivity provides the opportunity to acknowledge the influence my

history and beliefs have on the research I am conducting. This recognition will aid in attempting to account for potential biases during the data analysis and exploration of findings.

In the interest of full disclosure, prior to commencing this research I spent three months earlier in 2012 conducting a separate study in another part of Cambodia. In previous years, before beginning this master's program, I worked for a NGO that was based in Cambodia but had a Washington, DC office. While working for the organization in the DC office, insider's insights into NGO work in Cambodia were obtained and although attempts have been made to only discuss what was learned from this particular study, it is clear that some knowledge gained through this previous work and experience plays into the findings.

## 4.3 Study Design

### 4.3.1 Study Site

The Phnom Tamao Wildlife Rescue Centre (PTWRC) is located 43 kilometres south of the capital city of Phnom Penh on National Road 2 (see Figure 5). The centre sits on 2,500 hectares (6,000 acres) of protected forest. The PTWRC is run by the Forestry Administration (FA) of the Cambodian Government but receives support, financial and logistical, from conservation NGOs that provide care and rehabilitation for animal victims of the illegal wildlife trade. Within the protected area there is a commune with 12 villages. The four villages that were visited for this study, within the protected area, were in the Lompong Commune, Takeo Province, Batei District. The four villages were called Bak Ronous, Trapang Krolann, Poun Phnom, and Kandal. There was an average population of 747 in each village. Four individuals from each of these villages were chosen to be invited to participate, totalling 16 individuals from within the protected area, including four village leaders, these individuals fit in either the "inside local", "villager" or the "rural" target groups (see section 4.4.1 and Figure 6).

Outside of the protected area, in between the rescue centre and Phnom Penh nine additional interviews were conducted with community members living in a rural setting but that might not have had a relationship with the rescue centre. This involved receiving permission and interviewing three additional village leaders and six residents of the three smaller villages. Unfortunately I was unable to obtain village data on these communities. These interviews were included in the "villagers" or "rural" target groups (Figure 6).


**Figure 5: Orange marker represents Phnom Tamao Wildlife Rescue Centre, the red outline represents the general boundaries of the protected area (source: Google Maps)**

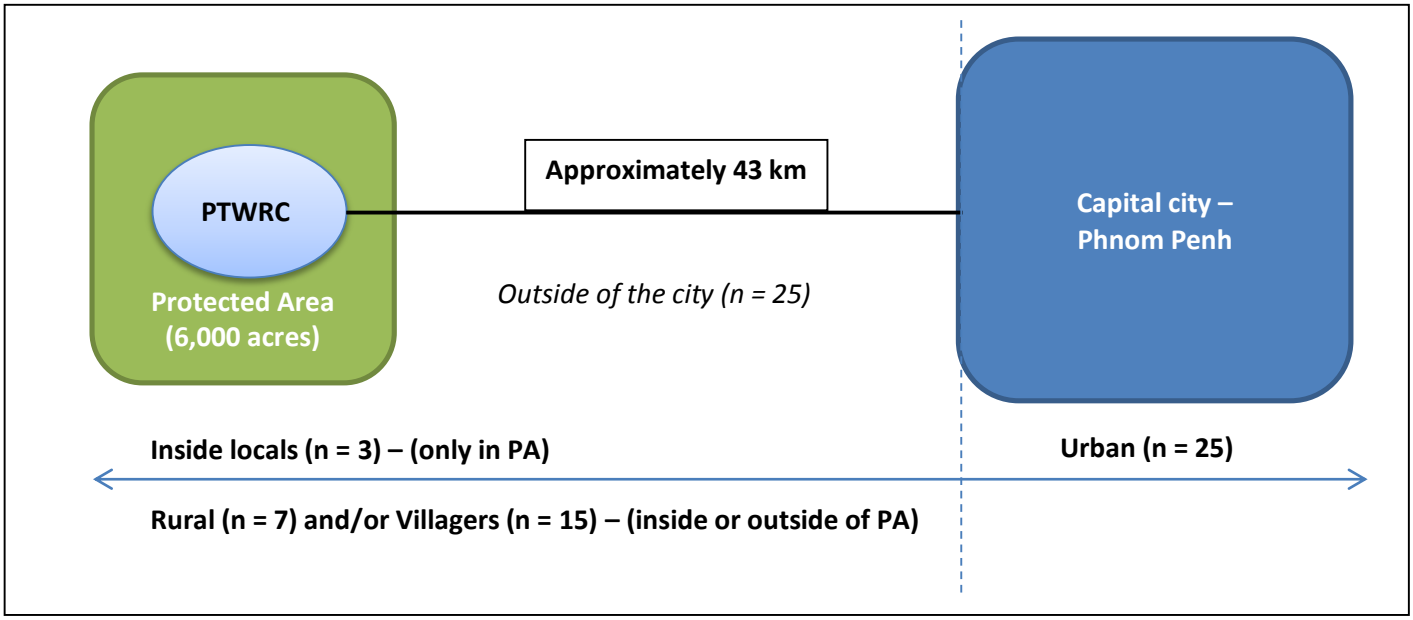


**Figure 6: Breakdown of target group geographic location.**

Phnom Penh is the capital and largest city of Cambodia and has a population of 1.5 million people (Phnom Penh Government, 2012). Phnom Penh is located in the south-central region of Cambodia, at the confluence of the Tonlé Sap, Mekong, and Bassac rivers (see Figure 7). The majority of inhabitants of Phnom Penh are from other Cambodian provinces and have moved to the city for work. But new generations of Cambodians are being born there and growing up in the city, influencing the history and development of the country. Twenty five interviews were conducted with individuals who lived and worked primarily in the city.


**Figure 7: Map of Cambodia (source: CIA Factbook)**

## 4.4 Methods

Methods according to Crotty (1998, p. 3) are "the techniques or procedures used to gather and analyze data related to some research question or hypothesis." The methods used for this study included qualitative data collection using semi-structured interviews. The data were collected during the months of October and November 2012.

Research interviews vary from very formal and structured to quite informal and unstructured (Pickard, 2007). This research used semi-structured interviews, as this allowed for some flexibility in what information could be obtained from the different participants, each of whom had unique knowledge and opinions. The interviews focused on general participants and key-informants and were fairly informal. Individuals from each of the four target groups (see Table 2) were randomly selected and invited to participate in the study. Key-informant interviews involved interviewing a select group of individuals who were likely to provide needed information, ideas, and insights on a particular subject. For this study that included the director of Phnom Tamao, high-level staff, and NGO representatives (Kumar, 1989).

The purpose of conducting a large number of semi-structured interviews with target groups was to gain insight into how Cambodians (those who are not necessarily conservation practitioners) construct nature conservation and the wildlife rescue and the rescue centre itself. While also interviewing key-informants I was able to learn how nature conservation practitioners go about their work. The key-informant interviews also gleaned the practitioners' impressions of the communities' thoughts on nature conservation; in other words, what key informants thought nature and nature conservation meant to the local people. This study was able to conduct ten key informant interviews due to the accessibility and availability of individuals considered to be key-informants for this study. As for the target group interviews (described below), 50 individuals were interviewed; 15 'villagers', 7 'rural', 3 'inside locals' and 25 'urban. The research was conducted through the aid of a Khmer translator.

### 4.4.1 Target Groups

For this study, in order to gain insight into the differing interpretations and constructed meanings of wildlife rescue and nature conservation and how they differ geographically and demographically several target groups were identified (Table 2). The differing characteristics of the individuals were their relationship to the wildlife rescue centre and distance from it, as well as other socio-economic factors such as occupation, income level, and ethnicity. The four target groups included individuals who lived nearby the rescue centre (within the protected area of the centre), who had someone in the family working for the centre, termed "inside locals". Individuals who lived within the protected area but who did not have family members working for the centre but who had family members that were commuting to work in the city, were termed "villagers". Individuals living outside of the city (judged based on appearance of a rural lifestyle), living subsistence lifestyles, with no family members working either at the centre or in the city, were termed "rural". And lastly, individuals who live in the city centre of Phnom Penh and who work there exclusively, were termed "urban".

Phnom Tamao is anecdotally known to be a favourite spot for local Cambodians to travel for family outings. This provided a good conversation starter to engage individuals in discussing and answering questions about wildlife rescue, rehabilitation, Phnom Tamao itself, and nature conservation in Cambodia. A few individuals were not familiar with the rescue centre but were still invited to participate; they were asked a shorter set of interview questions that dealt with more general questions about nature conservation.

These four target groups and the key-informants allowed for a variety of opinions and experiences to be revealed. By spatially limiting the study to the area around the Phnom Tamao Wildlife Rescue Centre and Phnom Penh, I was able to observe how the centre itself might influence the meaning of conservation in the communities, as well as how distance and relationship to the centre impacts interpretations.

**Table 2: Description of target groups and number of individuals represented within the group**

| Target Groups | # Interviewed | Description |
|---|---|---|
| **Villager** | 15 | Individuals living outside of the city with someone in the family commuting to the city for work, no one in the family working for the rescue centre |
| **Rural** | 7 | Individuals living outside of the city, living a subsistence lifestyle with no family members working in the city or for the rescue centre |
| **Inside local** | 3 | Individuals living in the protected area around the rescue centre with family members working for PTWRC |
| **Urban** | 25 | Individuals living solely in Phnom Penh |
| **Key-informant** | 10 | Individuals working for an NGO, the government, or themselves working for the rescue centre |

### 4.4.2 Demographic groups

Demographically the participants were categorized by income level (determined based on housing and vehicles owned, see Table 3); highest education obtained; age, and gender. In Table 3 the criteria for the different income groups is displayed. These income groups represent how, even incrementally, there can be differences between income groups. In Cambodia, when families acquire wealth there are general behaviors relating to how income is spent (M. Bunthim, personal communication, October, 2013). Generally, as Cambodians become more financially stable they tend to acquire motorized vehicles and make adjustments to their homes. In Cambodia it is fairly clear that if an individual has no motorbike and is living in a thatch roof house they are most likely very poor. From there, once an individual or family earns more money they tend to acquire a motorbike, and once additional income is gained they tend to cement their houses. As income grows families will tend to want to buy a car or perhaps an even fancier motorcycle. It is the case in this study that all the western key-informants were classified as wealthy, even though they may not be considered wealthy in their home countries. By Cambodian standards someone with an expensive car or a very nice house would be considered wealthy.

These distinctions were helpful in revealing how even a slight increase in income generation could influence someone's opinion and/or relationship to nature, therefore making the differentiations important. Additionally, when I looked at these distinctions to test the validity of the groups, I found that there was a bell curve distribution in terms of the number of people represented in each group. There was a higher number of participants fitting in the poor to not poor range, with fewer in the very poor and wealthy groups. Therefore, if those groups were to be combined it would potentially have given too much weight to one group over the others. In this way the number of respondents represented in each group is fairly representative of the reality on the ground in Cambodia.

**Table 3: How income level was determined based on housing and vehicle attributes**

| Income level | Attributes determining level of income |
|---|---|
| Very poor | Thatch roof house; no vehicles |
| Poor | One motorbike; tin housing |
| Not so poor | Two motorbikes; cement housing |
| Not poor | Three or more motorbikes; structured house; family car |
| Wealthy | One or more individual car(s) or expensive motorcycle |

### 4.4.3 Sampling

As is the custom in Cambodia, it was necessary to meet with the local commune chair and respective chiefs of villages prior to approaching anyone regarding participation in the study. A Khmer translator and I met with the chief of the commune that surrounded the Phnom Tamao Wildlife Rescue Centre and he amenably agreed. Permission was also granted by the director of PTWRC prior to commencement of the study. He also agreed to be a 'key-informant'. After receiving permission from the commune chief,

permission was also needed from local community chiefs. This was received by all four chiefs approached regarding interviewing their community members. These four chiefs were also invited to participate and all happily accepted.

Once permission was granted by the local community chief of the villages around PTWRC my translator and I (from here on referred to as "we") approached individuals as we walked and motorbiked around the villages. Since the rural lifestyle in Cambodia involves mainly work and life conducted physically outside of the hut/home, if someone was not away from the village they were likely to be around outside in their yard. If we passed a house, or group of houses that had individuals mingling outside we would approach and tell them about the study. If they were interested in participating we provided them with a research information sheet and asked for their verbal consent. Interviews were then conducted around their home and the majority were digitally recorded. This formula allowed for us to meet with a variety of individuals, young and old, wealthy and also very poor. It also permitted us to talk to people who were within the different target groups.

Finding participants in the city was more challenging and took twice as long as interviews with rural communities. This we suspected was for several reasons. Firstly, city dwellers tend to be busier, or at least appear to be, and are therefore more difficult to approach and even when approached, do not necessarily have time to sit and talk. City dwellers are also more cautious about talking to strangers. From our experience the rural community members were much more trusting and willing to talk. They also appeared to have more time to sit and chat. In order to meet our target for city individuals we visited places where individuals might have more time to talk, and where we could get a variety of age, gender, and income-level. This included a mall, a resort area, coffee shops/stands, tuk tuk drivers, and also friends of friends who were professionals and therefore might not have been captured at the various random locations.

### 4.4.4 Interviewing

Interviews were conducted in the various locations described above and averaged between 45-60 minutes. A research information sheet (Appendix A) outlining the project and contact details, and a consent form (Appendix B) approved by the Human Ethics Committee (Approval number 2012-33) were provided to research participants, although all consent was achieved verbally as signing documents is a delicate issue in Cambodia. Permission was requested to record at the start of the interview, and an explanation was given how the recording and the transcript would be handled to ensure confidentiality and anonymity. Forty-four out of 60 interviewees agreed to be recorded.

Depending on the knowledge and comfort level of the interviewee the interviews varied from being fairly structured to more open-ended. The research began with a few initial demographic questions and then moved on to questions regarding PTWRC, wildlife rescue, nature, wildlife, and nature conservation. Since some individuals were not familiar with these terms the interviews would diverge

sometimes to discussing concepts and situations they were familiar with. For example, if an individual wasn't sure about the term "apieriat taum machete" (nature conservation) my translator and I would discuss what they knew regarding the area around the rescue centre and what rules there were about the forest. This tended to familiarize the individuals with the concept we were talking about, allowing them to express thoughts and opinions about the reality they knew. The tone of the interviews was conversational and attempted to be as open-ended and non-threatening as possible.

### 4.4.5 Data Analysis

Field notes were typed daily and on a secure computer. Semi-structured interviews were recorded using a Dictaphone, with notes being taken while translation was in process, and later typed into Word on the same secure computer. Discourse analysis was then performed on the data over the course of approximately three months. This involved pouring over the data and studying the themes that emerged from the topics discussed. NVivo 10 software aided in the organizing of the codes/themes that I identified in the data. Through the software I was also able to analyze frequency of language which I used to detect recurring concepts. From there I was able to isolate those themes within the different target and demographic groups. By visualizing the frequency of themes among the different groups I was able to draw results.

## 4.5 Summary

Chapter 4 outlined the methodology and methods applied to this research. This chapter discussed the details of the study site as well as the distinctions between the different target groups and rationale for using key-informants. It also presented the process of receiving permission and approaching participants. The chapter concluded by reviewing the method of interviewing and the strategy for data analysis. Chapter 5 will report on the results found after coding and analysis was conducted on the data.

# Chapter 5

# Results

## 5.1 Introduction

Discourse analysis was used in this research to answer research questions. It revealed several overarching themes within the topics discussed with participants. The first themes discussed were those around the Phnom Tamao Wildlife Rescue Centre. From there the chapter reports on the themes around nature and natural resources. These are followed by the constructions and discourse around wildlife. The chapter then reveals the themes that arose around nature conservation, as well as why individuals felt it was important. The chapter then moves on to review the themes that arose around threats to nature, as well as how participants prioritized development versus conservation. Lastly the chapter outlines the keys to successful conservation that the participants spoke of as well as its perceived drawbacks.

Due to the nature of semi-structured, qualitative interviews, although there was a guiding group of questions available, many times the conversations led to new and different questions being asked when necessary to get the most out of the interview and the interviewee's frame of knowledge (as was the goal of the study). Consequently, not every participant answered the same exact questions and therefore analysis was done on the basis of "number of times mentioned", not always a percentage of respondents or exact number of participants who answered a question one way or another. "Number of times mentioned" occasionally denoted when individuals mentioned a theme more than once, resulting in occasionally the number of times mentioned being more than the total number of people in the group interviewed. That is why analysis for topics that were recurring was not conducted based on percentage of total respondents. However, there were no instances when one person mentioned something on more than three occasions in the course of one interview. For questions that were asked directly and only necessitated a one-time response, those were analyzed based on percentage of total and displayed accordingly.

Additionally, due to cultural considerations, some of the demographic information was not obtained for all participants, as some questions were not appropriate to ask. Therefore, the data represented are intended to illustrate a general idea of which demographics and target groups more frequently mentioned each of the constructions and themes but are not to be taken as exact figures of how many individuals mentioned each of the topics out of the total interviewed, unless explicitly specified. As a result, total numbers for each demographic and target group are not included as a specific sample size in the diagrams but can be viewed in Appendix C.

## 5.2 Social Construction of the Phnom Tamao Wildlife Rescue Centre

Four themes for Phnom Tamao Wildlife Rescue Centre arose when discussing with participants what they thought Phnom Tamao was and its purpose. These included Phnom Tamao as a zoo, Phnom Tamao as a place to raise wildlife, Phnom Tamao as a resort, and Phnom Tamao as a place for wildlife conservation (see Figure 8). The most common theme for Phnom Tamao was as a zoo. All target groups referred at least once to PTWRC being a zoo. Referring to PTWRC as a resort was the next most common description. The term 'resort' for Cambodians in this context refers to a place where families go on holiday, where they can have a picnic, eat and rest with family and friends.

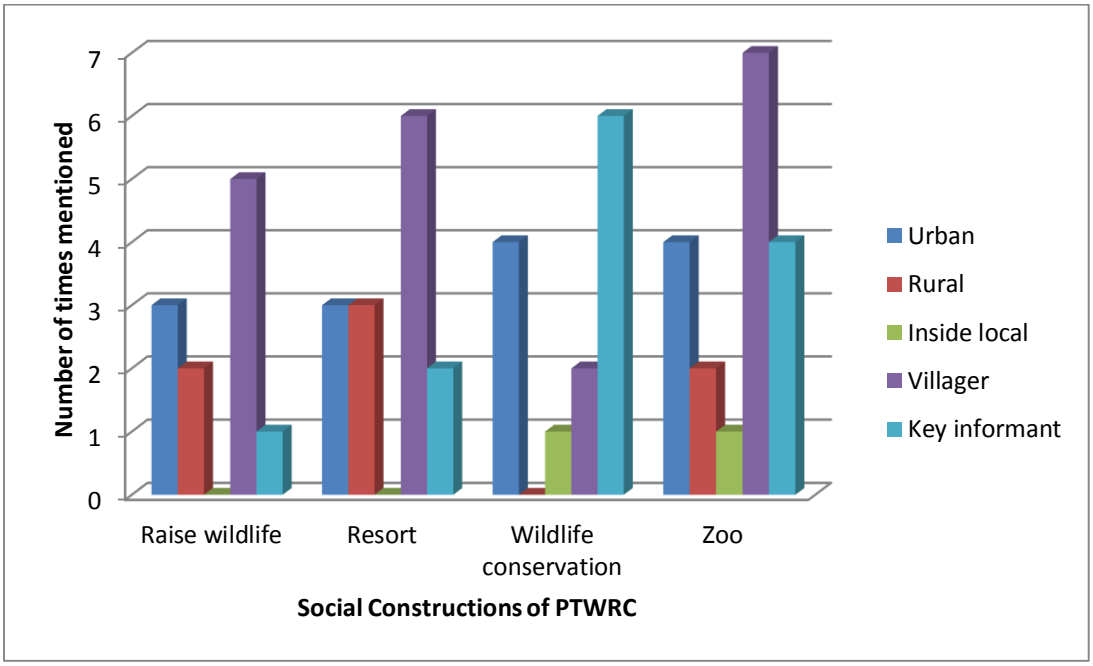


**Figure 8: How target groups socially constructed Phnom Tamao Wildlife Rescue Centre, its work and purpose**

### 5.2.1 Phnom Tamao is a zoo

Given that the Rescue Centre sits inside of 2,500 hectares of protected native forest most enclosures are simply a fenced area of the forest suitable for the particular species, with the rescued wildlife inside. The roads around the 25 hectares of Phnom Tamao are dirt and have deep ridges from the monsoon rains. Due to lack of funding many of the enclosures do not have signage and are even difficult to find. But on any given day Cambodian visitors can be found buzzing around the park on their motorbikes visiting the animals. Hence, according to many participants in this study, Phnom Tamao was their zoo.

> *It is a kind of zoo; [the government] wants to show some animals to the citizens that we don't see much (Interview 29).*

> *Phnom Tamao is a zoo, place where people can visit animals (Interview 3).*

This was the dominant construction of Phnom Tamao and was represented in all target groups and ages. Villagers were the most common target group to refer to PTWRC as a zoo, along with those in the 18-30 and 60+ year old age groups (Figure 9). Individuals with university degrees, as well as participants considered to be wealthy, both most commonly described PTWRC as a zoo. Over all four definitions men most commonly defined Phnom Tamao as a zoo. Four of the key-informants described PTWRC as a zoo, including the wildlife rescue director.

> *It serves as the country's national zoo and also the place that receives all the rescued wildlife from the illegal wildlife trade; and as the premier site and best place for education regarding wildlife in Cambodia (Key-informant Interview 1).*

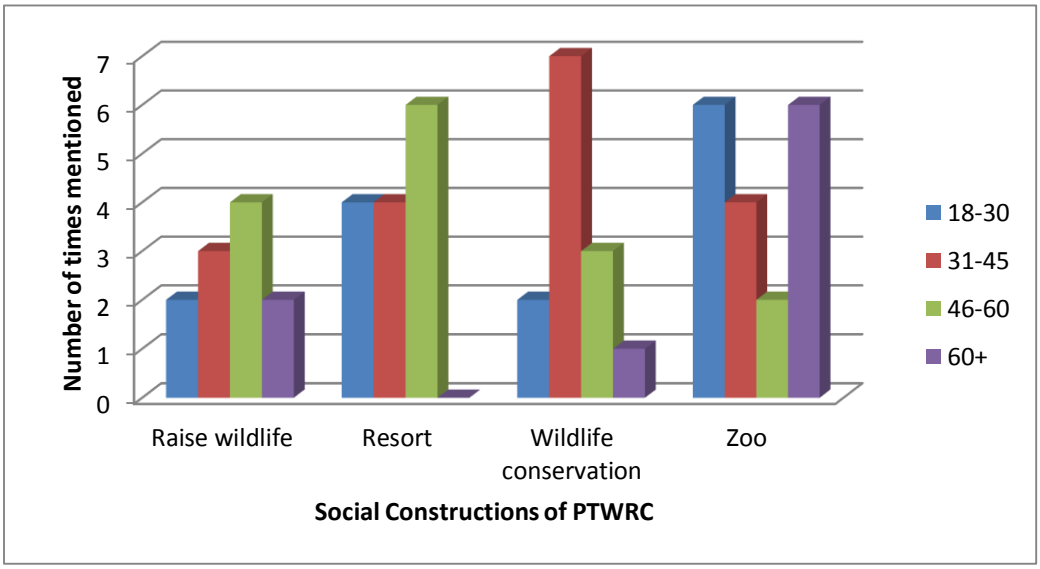


**Figure 9: How different age groups socially constructed Phnom Tamao Wildlife Rescue Centre, its work and purpose**

### 5.2.2 Phnom Tamao is a resort

A resort for Cambodians is more generally a place for rest and relaxation, usually outdoors involving hammocks, shade, picnic and lots of family and friends. Eleven individuals described Phnom Tamao as a resort.

> *[Phnom Tamao is] a resort for taking a rest where they have wildlife (Interview 37).*

> *[Phnom Tamao is] a picnic place where people can visit wildlife (Interview 4).*

Those in the 46-60 year old age group most commonly mentioned PTWRC as a resort, while those that were 60+ did not define it as such. Inside locals also did not refer to PTWRC as a resort. In contrast six villagers referred to Phnom Tamao as a place to rest and enjoy a picnic. Participants with an education of between grades 6 – 12, as well as individuals considered not so poor, most frequently referred to Phnom Tamao as a resort.

Two key-informants also mentioned that they perceive that most Cambodians would consider Phnom Tamao a resort, or a "place where they can go to spend a day away from their work, or lives" (Key-informant Interview 8). This sentiment was held by one foreign key-informant as well as one Cambodian, both recognized the value PTWRC has for Cambodians in terms of a respite from the pollution and congestion of the city or as one key-informant put it:

> *Fifty, fifty, some people say it plays a role as an education centre and some people say it is like a place for a holiday, like a resort (key-informant Interview 10).*

It is easy to see this reality when visiting the rescue centre on a national holiday or a weekend. The different hammock-filled picnic areas are packed with families enjoying brought lunches or patronizing the food stands local community members have set up. There are trinkets, hats, sodas and snacks for sale around the picnic areas and plenty of thatch covered huts to take a rest under. The pace and energy is calm even when there are throngs of visitors making it an ideal location, only 40km from the big city, for a day trip to the 'country'.

### 5.2.3 Phnom Tamao is a place for wildlife conservation

Key informants, those with university degrees, and individuals considered not so poor were the most frequent groups to mention Phnom Tamao as a place for wildlife conservation. As can be seen in Figure 8 after key-informants, urban individuals were next to recognize PTWRC as a place that conducts wildlife conservation, compared to rural individuals of which none mentioned this as a purpose for the rescue centre. Those in the 31-45 year old age group more frequently referred to PTWRC as a place for wildlife conservation and inside locals only referred to PTWRC as a wildlife conservation place and a zoo.

> ***How would you describe what the centre does and its purpose?***
>
> *Wildlife conservation and a place for tourists to see wildlife (Interview 5).*
>
> *Conservation of wildlife and forests around the rescue centre. (Interview 35).*

No individuals with less than a grade 5 education, or who were considered very poor or poor identified PTWRC as a place for wildlife conservation. Only one woman referred to Phnom Tamao as a place for wildlife conservation.

### 5.2.4 Phnom Tamao is a place to raise wildlife

A final construction of Phnom Tamao, mentioned by 11 individuals was PTWRC as a place to raise wildlife. This was interpreted to mean a place where wild animals were bred to increase populations. This is the case particularly for species that procreate easily on their own, like sambar deer, as well as NGO sponsored and managed breeding programs, such as for the Siamese crocodile.

***How would you describe what the centre does and its purpose?***

*Place for raising wildlife and planting trees (Interview 16).*

*[A place for] raising animals, for example the crocodile (Interview 44).*

No inside locals referred to Phnom Tamao in this way, but five villagers referenced raising wildlife as the purpose of PTWRC. Poor individuals were the most common income group to discuss this and this was the most common construction expressed by women out of the four. As seen in Figure 9, 46-60 year olds more frequently referred to raising wildlife as a purpose of Phnom Tamao than the other three age groups. As one key-informant prioritized it, breeding is the third purpose of Phnom Tamao after education and science.

## 5.3 Conceptions of Nature and Natural Resources

Early on in the designing of this study it was clear that when attempting to learn about nature conservation it would be necessary to ask also about concepts surrounding nature conservation, including nature and natural resources in general. Particularly when focusing the study around the rescue centre, questions regarding ideas of wildlife and nature would be intriguing insights in terms of how people related to the rescue centre and conservation. The following sections represent some of the different ways participants conceptualized nature (Figure 10), as well as some of the issues around the concept of nature including spirituality, resources, well-being, and nature's "opposite". When discussing any of these topics, whether it was wildlife, conservation, nature or development, it was common for individuals to provide examples to help articulate what that concept meant to them since sometimes the specific definitions appeared elusive. For example for those without formal education these matters might only be familiar when they are put into the context of their reality, as opposed to abstract classifications.

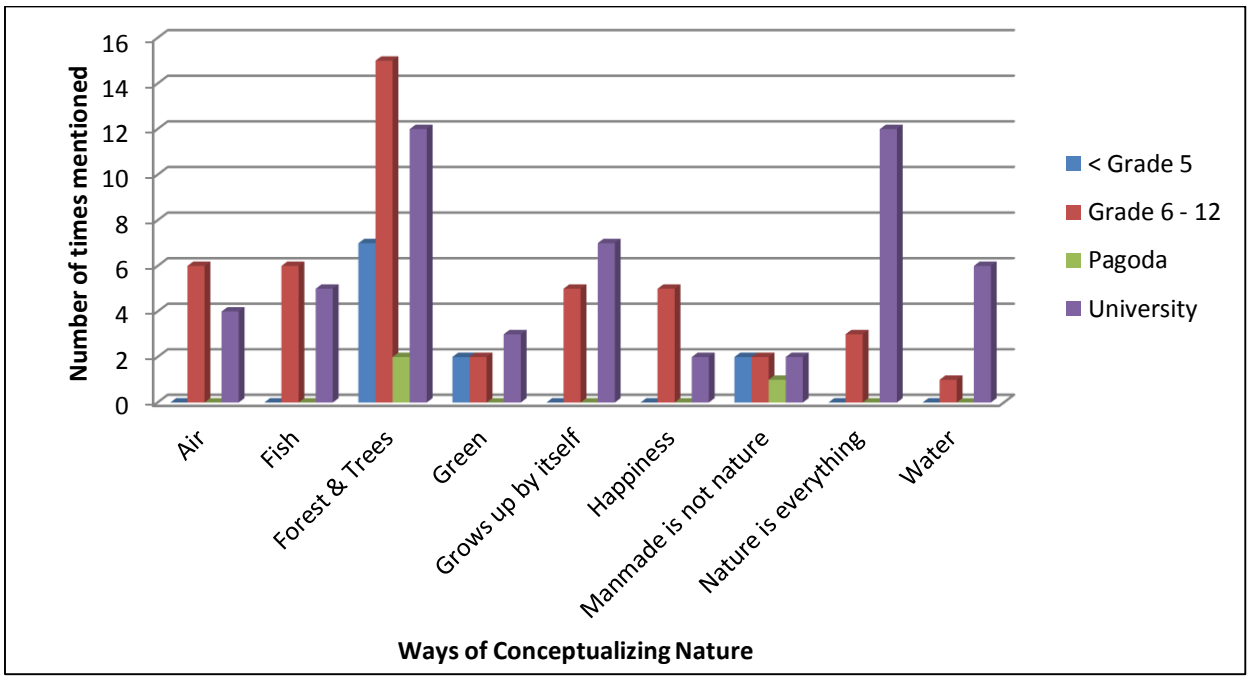


**Figure 10: Level of education and conceptions of nature (Pagoda is an alternative education where boys are taught by monks)**

### 5.3.1 "All that grows up by itself"

Although only nine individuals from two target groups said that nature is "all that grows up by itself", it rang of something very meaningful. Considering two of the participants that described nature this way were monks, it hinted that this notion was rooted in Buddhism and probably resonated through the other descriptions as well. This construction denoted that nature is everything that does not need humans to grow – it grows up by itself. Nature therefore could be anything that was able to do such a thing including wildlife, trees, plants and fish.

> *Nature is everything that lives around us, and grows up by itself (Interview 28).*
>
> *Nature is material that grows up by itself from Earth. For example forests, humans and wildlife (Interview 23).*
>
> *Nature is everything that is attractive and grows up by itself (Key-informant Interview 4).*
>
> *The thing that doesn't need anyone to help it grow. It just needs people not to destroy it. It would grow by itself if no one destroys it. For example if no one is logging or polluting the world would be stable. The nature does itself a good job if no one stops it (Key-informant Interview 9).*

Rural, inside locals, individuals with less than a 5$^{th}$ grade education and the very poor did not mention this as a definition of nature. More frequently those that were considered not so poor, aged 18-30, had a

university education, and who were in the urban target group stated this as a description of what is nature.

### 5.3.2 All that is "green"

In an attempt to conjure up independent thoughts on the concept of nature, the question was asked "When I talk about nature, what images does that create for you?" This allowed for the participant to describe what they pictured as nature. Several participants saw "green". Individuals participating in this study were either living in or near a forest or living in the city; none were living near the coast. Green (as well as brown dirt) was usually the prominent color around them, or the color of the closest "nature".

> *Green color (closes her eyes); it depends on what an individual person thinks. For me I think of green color (Interview 26).*
>
> *Nature has a good view; it is green color (Interview 44).*

Visualizing nature also frequently aroused confusion. Participants were certainly not used to this type of interview but when interviewees responded by saying "green" it was clear that this was their immediate, knee-jerk response to what in their mind was nature. In terms of demographic differences individuals who were considered poor or not so poor mentioned the color green more frequently, as well as 18-30 year olds and university graduates. The villager target group also mentioned green more often, while inside locals and rural individuals did not mention green color at all. Participants considered not poor did not mention green at all, and only one wealthy individual mentioned the color.

### 5.3.3 "Trees" and "Forest"

By far the most common answer across all target groups and demographics was nature as trees and/or forests. Almost all individuals mentioned this when imaging and describing nature.

> *Nature is forest and trees (Interview 14).*
>
> *I love nature, deeply, people cannot live without nature, I think of forests and trees (Interview 33).*
>
> *Nature is forests, landscapes and mountains (Interview 2).*
>
> *For imagery, my childhood images from nature are green fields and forests (key-informant interview 3).*

As can be seen in Figure 11 participants considered poor mentioned forest and trees 19 times while discussing the concept of nature, followed by the very poor income group. Age group 31-45 also more frequently mentioned forests and trees, along with individuals with an education between grades 6-12. Regarding the target groups all groups were represented in this conception of nature.

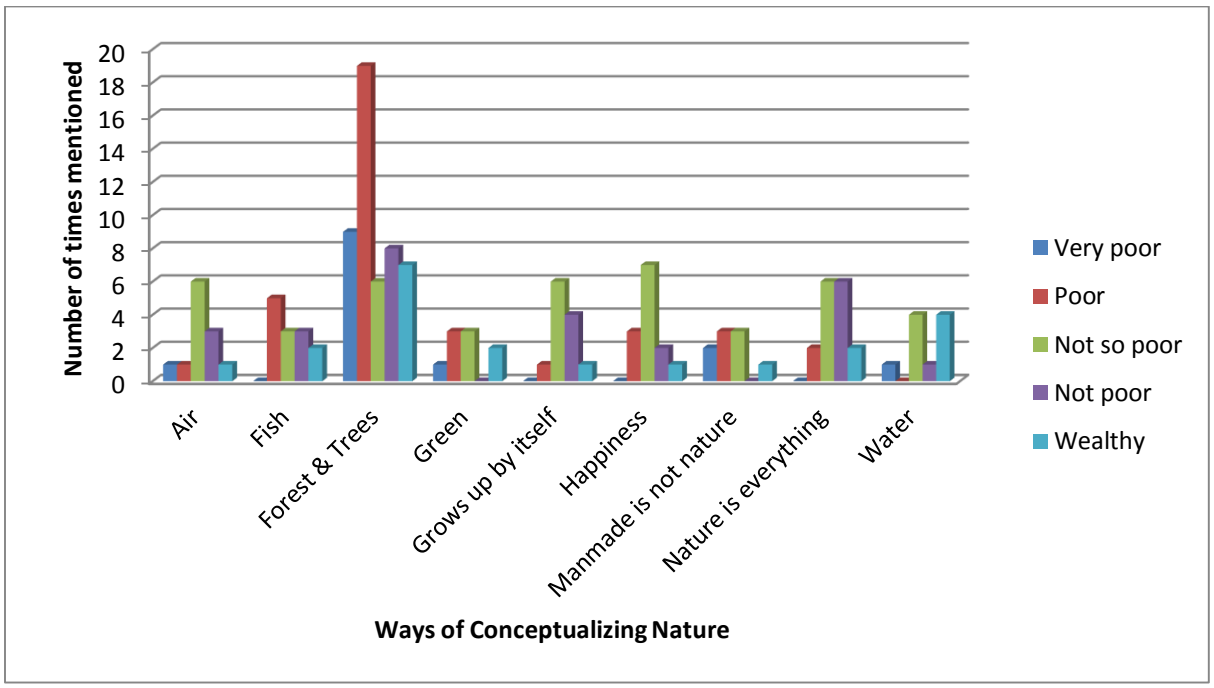


**Figure 11: Income level and conceptions of nature**

### 5.3.4 "Air", "Water" and "Fish"

These three groups, although separate in the data presented, have been grouped since they frequently were mentioned together or were sometimes secondary thoughts of nature, which arose when discussing the role nature has in their life. Frequently responses to describing the role nature or natural resources have in their life elicited examples including air to breath, water to drink, and fish to eat.

> ***When I talk about nature, what images does that create for you?***
>
> *Forests, river, pond (Interview 29).*
>
> ***What role does nature or natural resources have in your life?***
>
> *Nature is important, air, because we need to breathe (Interview 19).*
>
> *Fish and water are natural resources I use daily (Interview 28).*
>
> *I use wood, charcoal and fish (key-informant Interview 2).*

Individuals considered poor most frequently mentioned fish as a part of nature that directly relates to their life, while not so poor and wealthy urban individuals as well as university graduates mentioned water. The very poor did not mention fish at all, nor did the poor or those with less than grade 5 education mention water.

### 5.3.5 Nature is "everything"

Included in this group is one of the two monks interviewed who defined the Khmer term for nature and observed that "everything on Earth is nature" (Interview 34).

*There is a lot of nature around, everything is nature. Water, land, etc. (Interview 2).*

*Bali language is similar to Sanskrit mixed with Khmer. The word for nature in Khmer came from these languages, Taumme – means Dharma, and chete – means source. So it describes that cycle ... Everything on Earth is nature (Interview 34).*

*Nature is everything we can see, natural resources are under the earth, what we can take (key-informant Interview 2).*

This response was most commonly mentioned by urban individuals and those with university degrees. Men also described nature this way four times more than women. Villagers were the least represented of the target groups with only one individual mentioning this concept.

### 5.3.6 Nature as everything not "manmade"

Occasionally it was helpful to always ask individuals to elaborate on what they would *not* consider to be included under the concept in question. Since nature is an abstract term many participants voluntarily began giving examples of what is not nature in their opinion. A common theme that was not nature was everything that is manmade.

*In Buddhist scripture nature is something that grows up by itself. Buildings are not nature; anything manmade is not nature (Interview 19).*

*Green color, I picture a garden; electricity is not nature, motorbikes and other human made things are not nature (Interview 5).*

When grouping the target groups between those that were living outside of the city and urban individuals, it is clear that this concept was more commonly discussed by individuals living in surrounding villages or rural communities. Urban individuals only mentioned this notion twice out of the 25 respondents.

### 5.3.7 Nature providing "health and happiness"

Nature clearly represents a lot of different notions for Cambodians, happiness and well-being being one of them. Particularly when discussing the role of nature in participants' lives, nature was tied to their health and happiness.

***What role does nature have in your life?***

*Forest can make the rain and a good feeling, when we have nature we can feel happy (Interview 2).*

*It gives me a good feeling, makes me feel happy, positive (Interview 4).*

As can be seen in Figure 12 urban individuals were the only target group not to mention happiness when discussing nature. In terms of demographics individuals considered not so poor were more represented as mentioning happiness in relation to nature.

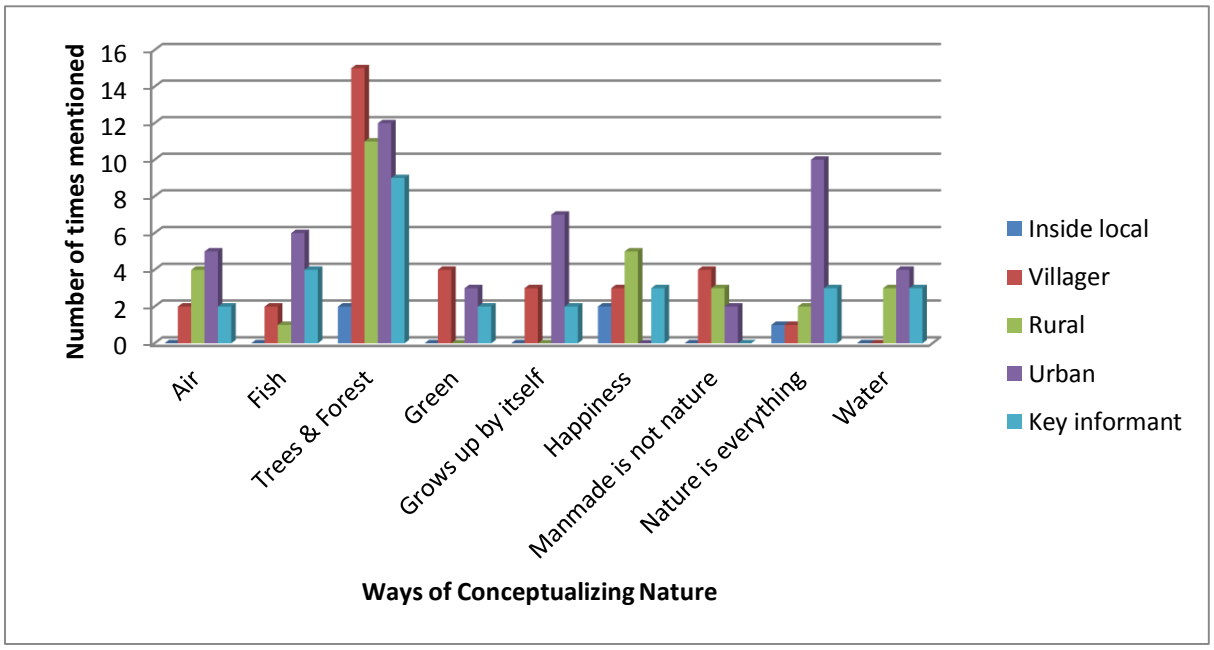


**Figure 12: Target groups and conceptions of nature**

### 5.3.8 N'tah

N'tah is described as the spirit of the forest or the spirit of nature. Why this is and how it came to be differs depending on the individual and their conception of nature. More participants than not mentioned that they believe in either a spirit of the forest or that large individual trees had spirits, or souls. Many times this spirit related to good or bad luck and could be prayed to and could be angered. This sometimes also related to Buddhism and the Buddha's relationship to trees and nature, insinuating that nature's spirit stems from Buddhism. This seemed to be the case for some, while others had more of what seemed to be a mystical relationship to nature.

> *If we have a big tree, it has a soul, for some people who cut the tree the soul will give them bad luck, not happy, illness. Bad spirit comes. It has non-material value, big tree has a soul, bad spirit if cut down the tree (Interview 1).*
>
> *Nature has non-material value, the forest has a soul, I always pray to the forest spirit to be safe when I go into the forest (Interview 3).*
>
> *Cambodian people believe in spirit of nature, n'tah (Interview 38).*
>
> *Buddha, Buddha lived enlightened under a tree. Traditionally and now people love the forest. In the interim we had a war and some conditions people moving away from nature but we respect the spirit of the forest. We pray to the tree and to our ancestor's spirit. We are interlinked, and all*

*pagodas grow and keep the forest. There is a link between life and forest/natural resource (key-informant Interview 6).*

Of the target groups all inside locals mentioned the forest spirit. Rural individuals discussed the forest spirit the most and urban individuals were the smallest group to mention believing in the forest spirit. As can be seen in Figure 13, as the age groups increase the percentage of the total individuals in that age group, who do not believe in forest spirit, decreases to where none of the 60+ individuals mentioned not believing in the spirit of the forest. Regarding education levels, those with less than a grade 5 education level had the highest percentage of respondents believing in the forest spirit, with university graduates being the next highest. As for income levels, those considered to be very poor most commonly mention the forest spirit while those considered not poor were the only group to have a higher percentage of individuals not believing in the forest spirit than believing.

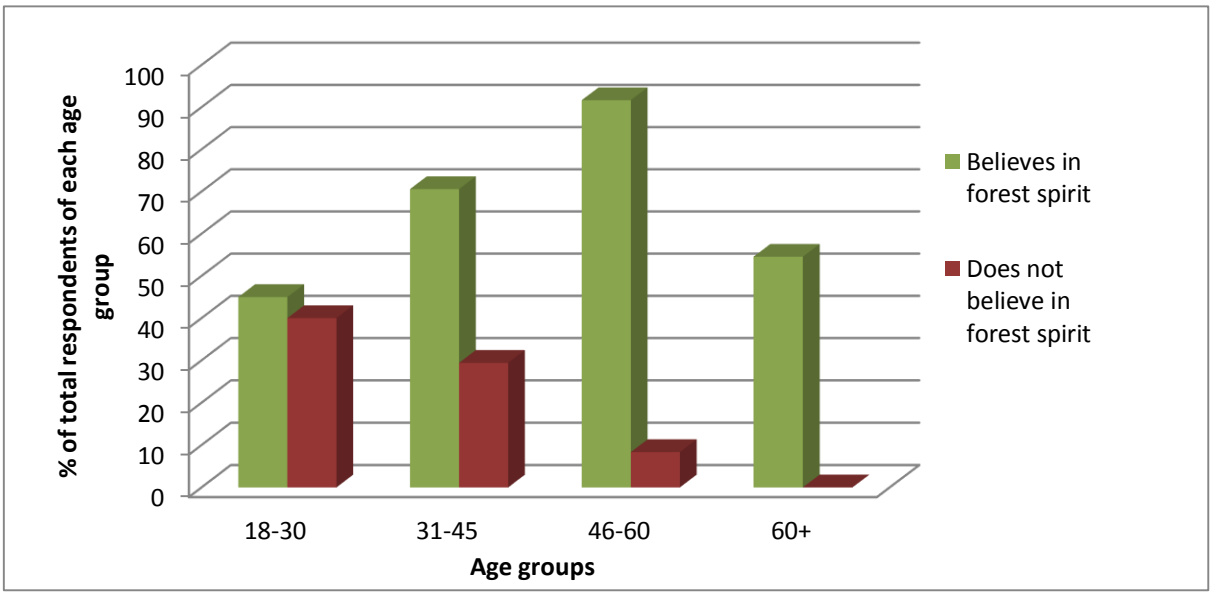


**Figure 13: Percentage of total individuals in each age group that mentioned believing or not believing in the forest spirit**

### 5.3.9 Natural resources

The term natural resource, "tatean taummachete", was not always a familiar word for participants. In many cases individuals assumed that nature and natural resources were essentially the same. While others were able to identify that natural resources were what humans consume of nature. Some urban individuals identified examples of natural resources they use as "gold", "diamonds" and "oil", while many interviewees mentioned "fish", "water", "air" (as discussed above), and mined materials. Trees and forests in general were also expressed as natural resources, along with rice.

It can be seen in Figure 14a and Figure 14b that villager and urban individuals more frequently than other target groups were unfamiliar with the term natural resource. In regard to education levels, those with an education of between 6-12$^{th}$ grade were most commonly unfamiliar with the term. Those in the

18 – 30 year old age group were also least familiar with the concept of natural resource, along with the not poor. Wealthy individuals were the most familiar with the term with only one individual not knowing the term. University graduates though were more commonly unfamiliar with the term than those with an education of less than grade 5.

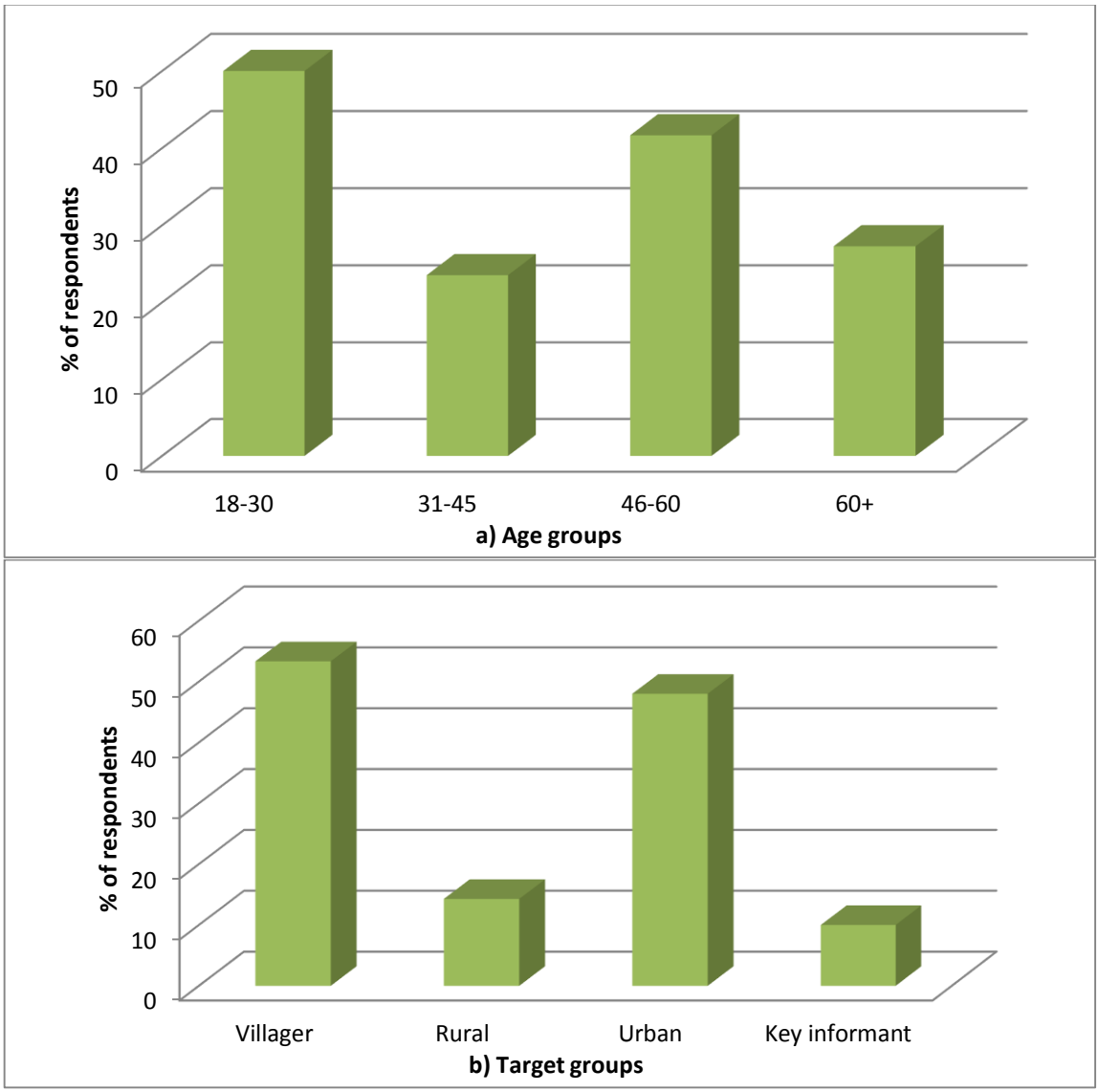


**Figure 14: Percentage of respondents from age (a) and target groups (b) who were not familiar with the term natural resource**

## 5.4 What is "Wildlife"?

Several different definitions and meanings arose when discussing wildlife. Below are three of the most frequently discussed conceptions of what wildlife is, along with a fourth topic that was discussed by one participant that articulated how the term wildlife could be confusing for some.

### 5.4.1 Wildlife are large mammals (megafauna)

When discussing wildlife many participants were quick to give examples and primarily included large mammals, referred to here as megafauna. Except for a few individuals naming lions (a species that is found at Phnom Tamao but not natively found in the country), almost all of the animals named were Cambodian native species.

> ***What animals would be categorized as wildlife?***
>
> *Tiger, elephant, porcupine, wild chicken, monkey (Interview 28).*
>
> *Elephant, tiger, the big ones (Key-informant Interview 10).*
>
> *Elephant, lion, tiger, macaque (Key-informant Interview 4).*
>
> *Tiger, elephant, python, gibbon, macaque, crocodile, bear, sambar deer (Interview 50).*

Participants that were between the ages 18-30 most frequently mentioned the megafauna when discussing wildlife. Both individuals who had university degrees as well as individuals categorized as poor most commonly mentioned megafauna (Figures 15 and 16). Many of the animals mentioned were species that are easily viewed at Phnom Tamao Wildlife Rescue Centre, and several individuals mentioned the kouprey, which is a large, forest-dwelling ox that is suspected to be extinct. The kouprey itself was occasionally used as an example of why there needs to be conservation of wildlife in Cambodia:

> *We need to participate in saving wildlife. If we don't save we will lose them from Cambodia. Future generations will not know about wildlife, for example the kouprey, we only see in statues now (Interview 7).*

Aside from the wild chicken being mentioned by several individuals, only a few participants named any bird species or even birds in general when responding to the question, 'what is wildlife'. The exception to this was when this question was posed to one British key-informant who personally grew up bird-watching, a popular wildlife experience for him.

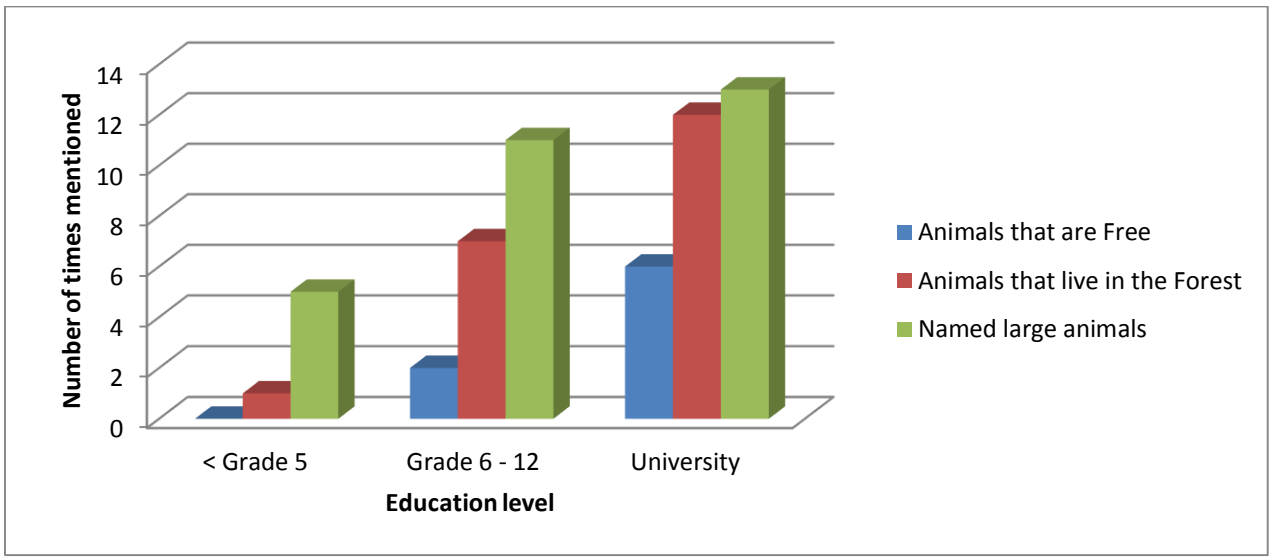


**Figure 15: Education level and ways of constructing the concept of wildlife**

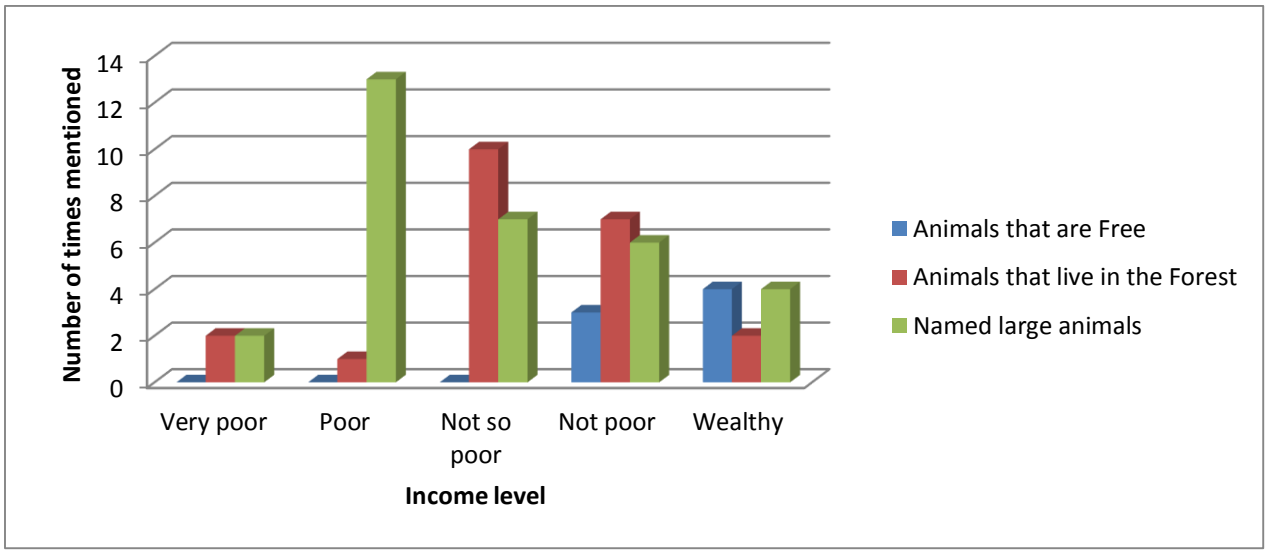


**Figure 16: Income level and ways of constructing the concept of wildlife**

### 5.4.2 Animals that live in the forest

Across all demographics and target groups, wildlife was most frequently referred to as "animals that live in the forest". This meant that all animals that lived in the forest would be considered wildlife, as opposed to animals that live in the village, which were referred to as 'pets'. Some participants though thought of wildlife or formerly wildlife what they now have as 'pets' and suspected that the term also had to do with how the animal interacted with humans. One participant summarized:

> *Wildlife is the same as a pet, but different, wildlife always lives in the forest. For example, the wild pig, they eat grapes, but in the family the pig eats rice. It depends on the animal's relationship with humans (Interview 5).*

The relationship with humans came up as the main distinction between pets and wildlife. In order to exemplify this most individuals opted to start naming individual wildlife and then naming pet-species (domesticated animals).

> *Wildlife are animals that don't live in the village, those that stay in the forest, not in the community. Wildlife looks like a pet but appearance is not exactly the same; wild pig, kouprey, elephant, tiger, lion, dhole, python, crocodile, macaque, gibbon, fowl, peacock, fishing cat (Interview 22).*

> *Wildlife is an animal living in the forest; cow and chicken are not wildlife (Interview 15).*

Alongside this notion of wildlife as animals that live in the forest is the underlying idea that wildlife and humans should be separate. Target group wise, urban individuals mentioned that humans and wildlife should be separate more frequently that all the other groups combined. It was also mentioned more frequently by the 18-30 year old age group. Those over the age of 46 mentioned the need for separation the least. Those with over a grade 6 education also mentioned this concept much more than those with less than a grade 5 education. Half of the key informants also thought that humans and wildlife should be separate. Although several participants did acknowledge that there were many species of wildlife that were not dangerous and that they would enjoy having around.

> *They [wildlife] should separate from humans. Should take them away from the people, because wildlife grow up in the forest. People should live separately [from wildlife] (Interview 1).*

> *We should take some part where wildlife can live separate from humans. Wildlife always lives in the forest, it is their habitat, and people always live in houses. Already we are separated (Interview 26).*

> *Some species are aggressive and we should live separately, but if they are not aggressive we can stay together because it makes people happy (Interview 30).*

Overall, everyone that participated was familiar with the term wildlife and individuals were quick to deliver their answer. Wildlife, although complex in some ways, was a pretty straightforward idea for the participants in this study.

### 5.4.3 That which is "free"

The concept of wildlife being a non-domesticated and "free" animal was primarily discussed by key-informants, although a few urban participants mentioned this as well. The concept that wildlife is something that is not "owned" by anyone was most frequently mentioned by those categorized as "wealthy" (by Cambodian standards) and those who had a university degree.

> *[Wildlife is an] [a]nimal that lives in the forest that does not belong to anyone and are free (Interview 34).*

> *[Wildlife is an] [a]nimal that lives in forest, and has freedom, that does not belong to anyone (Key-informant Interview 7).*
>
> *[Wildlife is an] [a]nimal that doesn't belong to anyone, that lives far from people (Interview 45).*

None of the participants from the rural target groups discussed the issue of "freedom" although several mentioned that the relationship the animal had with humans impacted their status as "wild" as reported in the previous section.

### 5.4.4 A "dancing" elephant complicates the issue

A common theme when discussing wildlife with participants was that the term "wildlife" and what is considered "wildlife" are frequently related to the animal's relationship to humans. An animal that was a "pet" was not "wildlife", or in other words, a domesticated animal was not wildlife. This appears to be a clear concept but for individuals who were familiar with the PTWRC and those aware that elephants were/are used as tools, this definition begins to muddle itself.

One participant came to this dilemma when he responded to the question of what is categorized as wildlife and named elephants, but then as he thought of his experiences with elephants he thought of Lucky. Lucky is not a pet, Lucky is a rescued adult female Asian elephant at PTWRC. She has a close relationship with her mahout who has taught her many tricks. Lucky can dance, kick a soccer ball, paint and collect money from tourists; these skills make her no longer "wildlife" in this participant's mind. Lucky was neither a pet nor wildlife, she was something of a "hybrid" according to this participant.

## 5.5 Nature Conservation Interpreted, or Not

The purpose of this study was to learn how nature conservation is interpreted by Cambodian people. It was clear from the beginning that this would involve asking about more than just nature conservation directly. This is because the term was not always familiar to participants and many times had to be circumvented to allow for the interview to progress. But those that knew the term directly primarily had a tangible association with what the term meant and knew of examples. This section breaks down how the definition was expressed by interviewees as well as who was more frequently unfamiliar with the term. It also highlights the differences expressed by those living within and outside of the city and whom all the demographic and target groups felt was responsible for conservation, as well as whose priority it should be. Lastly, the section reports on what participants perceived to be changes (or constants) in conceptions and knowledge of nature conservation in their country.

### 5.5.1 Apperate Taummachete (nature conservation) as a term in Khmer

As defined in section 5.4.5 the term 'nature' is derived from two Sanskrit words, taumme – meaning dharma, and chete – meaning source, apperate directly translates to "protect." Therefore, the translation of "nature conservation" in Khmer directly translates to "protect the source of dharma."

Conservation itself was not a separate vocabulary word, although as straightforward as this term appears, many participants were not directly familiar with the term and could not define what it meant. Even within the protected area used for this study, some individuals did not know the word, but they were aware of the rules surrounding where they lived regarding not cutting trees or burning.

### 5.5.2 Synonymous with 'protection'

Due to the root word meaning 'protect' within the Khmer term for nature conservation many respondents defined nature conservation as simply 'protection' or 'saving'. When asked what the term nature conservation meant to the participant many responded with the words "protection", "take care" and "save".

> *It means to protect nature, we plant tree so it can grow and use in the future (Interview 26).*
>
> *Protection to save nature (Interview 29).*
>
> *Protection, because we don't want to lose nature that already exists, we need to protect it and take care (Interview 7).*

Across demographics and target groups, when an individual was familiar with the term "nature conservation", the definition and conception of nature conservation was fairly uniform. Nature conservation was to save and protect nature, and as reported earlier, nature could be several different things. Trees and wildlife though, when discussing nature conservation, were most commonly mentioned.

> *Protect some animals, protect the trees. It means to save nature, we need to save by protection and not allow cutting of trees (Interview 38).*
>
> *It means we protect the forest by not allowing people to cut trees and keep the forests for the next generation, make it sustainable (Interview 47).*

### 5.5.3 An unfamiliar term

Fourteen individuals were not immediately familiar with the term "nature conservation" (see Figures 17 and 18). In these cases it was necessary to work around the term and ask people if there were any "rules" about what they could and couldn't do in Phnom Tamao. Since almost all participants were either living within or near the protected area or were familiar with it, this allowed for a context from which examples could be given or provided by the participant. Many times after circumventing the actual term "nature conservation" it was clear that the interviewee was familiar with the concept and did know of places where they lived or around Cambodia where there were restrictions on what one could do in the forested area. From there participants could elaborate on their thoughts on the issue.

Within the target groups, the rural individuals (those living subsistence lifestyles outside of the city with no one in the family working for the rescue centre or in the city), were most frequently unfamiliar with

the term. Demographically, 60+ year olds were more frequently unfamiliar with the term than the other age groups; those with less than a 5th grade education were most frequently unfamiliar with the term. Also participants considered poor and very poor were the largest income groups not to be familiar with nature conservation, 45 per cent of female respondents did not know the term, while only 13 per cent of males did not know the term.

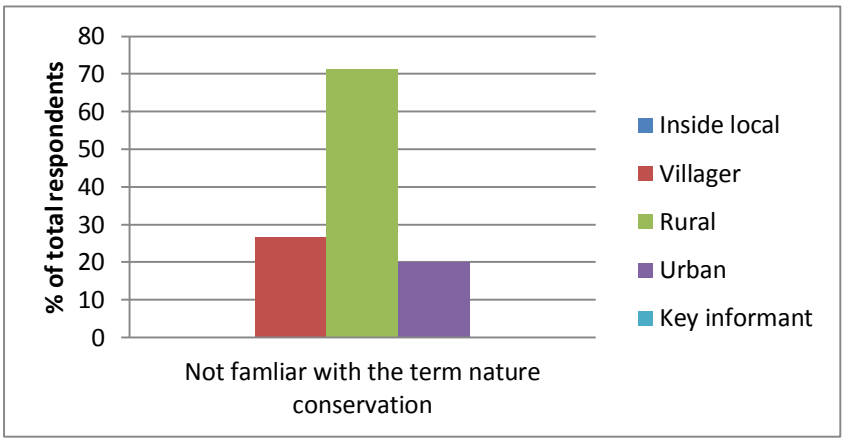


**Figure 17: Percentage of total target group respondents who were not familiar with the term nature conservation**

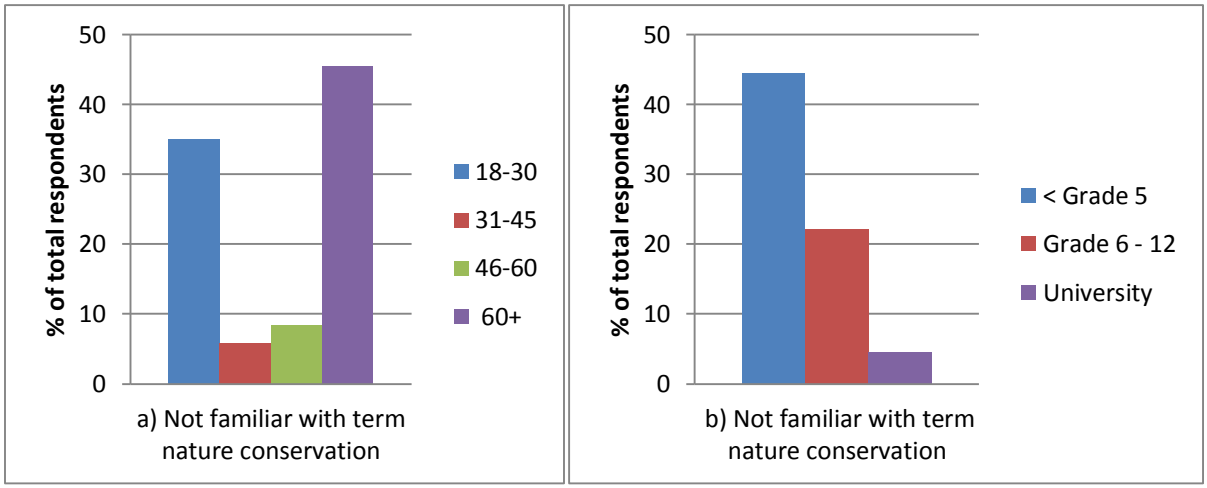


**Figure 18: Percentage of respondents from age (a) and education groups (b) who were not familiar with the term nature conservation**

### 5.5.4 Nature conservation as interpreted by city and country people

Participants frequently had the impression that individuals living the opposite lifestyle from them would have differing opinions on nature conservation. For example, several individuals living outside of the city felt that those living in the city would not care about nature because they lived urban/developed lifestyles. Conversely, several urban individuals felt that people living in the country would not care about nature conservation because they don't have high levels of education, implying that people in the city are better educated than those in the country. Most did feel that the sentiments towards nature conservation, whether positive or negative, would be different if one was from the city or the country;

while a few country individuals did mention that because city people have access to forested areas for holiday that they would appreciate them and think the same as country people.

> *[Country people think] different from people in city, people who live in the countryside have lower education than city people, so maybe people in the city are thinking a lot about development and money, because when we develop we get money right away/immediately but when we conserve, benefit is later. When we go to jungle we can collect resources, but now maybe people don't want to do that anymore. Before people like resource from forest, use the forest resources and were more interested in sustainability (Interview 22).*

> *In this [rural] community they care more about conservation because they are nearby the forest and have resources, but in the city they care about business and money (Interview 16).*

> *In Phnom Penh city when you have high education you understand more than country people (Interview 29).*

> *Yes it is different in the city because we have many people with education so they care about conservation, country people don't have education and so they cut the trees (Interview 48).*

Several key-informants also had opinions on how the two groups conceptualize nature. Two of these had directly opposing viewpoints on which group cared more about nature conservation.

> *[City and country people think] different, people in the city they don't respect the spirit; they go to the forest to make money. The people in the forest they like it more than the city, they think the forest can help them. They destroy only for family and growing rice, not business (key-informant Interview 2).*

> *[City and country people think] different, because people that live in the city they like nature but people that live near the forest they dislike the forest because they go into the forest to cut trees. Because people in the city don't have forest so when they see it they like it so much (key-informant Interview 4).*

### 5.5.5 Whose priority and responsibility is it then?

Participants in this study primarily felt that it was both the government's priority and responsibility to do nature conservation. Some directly named the Prime Minister – Hun Sen. Others named the director of the rescue centre, who is a government employee. A few individuals mentioned that organizations as well as monks were responsible, and two people stated that it was all Cambodians' responsibility.

> *The government should stop cutting trees and inspire the Cambodian people to love nature and trees. Government has most important role to do that (Interview 38).*

> *The government should be [responsible], because we pay taxes and visitors pay for resort or parks (Interview 45).*

Several key-informants mentioned that "it is the responsibility of the government but not their priority; on the whole, it is the concern of the foreign NGOs" (key-informant Interview 1). While one participant felt the opposite: "it is the government's priority to protect, but the NGO's responsibility, the NGO can make the forest sustainable, not allow people to cut trees, etc" (Interview 9).

> *The whole community has responsibility to protect their forest and wildlife. If they understand about nature conservation they will stop cutting trees and killing wildlife and will provide education to others (Interview 47).*

Urban individuals in particular felt that it was the government's priority to conserve nature, while key-informants felt it was mostly the NGOs' priority. University graduates more frequently mentioned conservation as a government priority, more than other education groups, while participants considered wealthy more commonly claimed it was NGOs' priority. Those that were considered poor most frequently mentioned nature conservation as a government priority, more than the other income groups.

### 5.5.6 Conceptions then and now

A recurring theme that arose during the discussions was the change between conceptions of nature conservation from the past until now, namely the notion that at some time in the past there were abundant resources and therefore there was no need or concern for conservation, but now that there are fewer forests people are more concerned with conserving what is left.

> *Before we have a lot of forests and now we have less. Before we think a little bit about conservation but now because we have less we are thinking more about it (Interview 40).*

> *Now is different from traditional Cambodian values of nature and conservation. You can see around here, in Phnom Penh, we have developed so obviously our relationship with nature has changed. Before we had a lot of resources so people wanted to develop but now we have fewer resources so now we want to conserve (Interview 35).*

> *In the past people don't think about nature because we have a lot of forests and don't have people who cut a lot of trees, but now people cut down a lot of trees so that they think more about conservation (Interview 39).*

Others described how in the past, since more people were deriving their livelihoods directly from nature, they were more conscious of caring for it in a way that would allow for trees and resources to be left for future generations, as opposed to nowadays where more (particularly from this region of Cambodia) families are moving to, or working in, the city.

> *Right now people in Cambodia don't think the same, some people care about conservation, some people don't care. In the past they were thinking that nature conservation was better for them, because they take some resource from the forest for daily life, but now they need money more than they need the forest, they think about job, and factory, they don't need to live off the forest anymore. Traditionally they had a more sustainable idea*

> *about how to use the forest. In the past they always took care. Also it changed during the war and after it changed. Not all of Cambodia though (Interview 18).*

Another notion that arose was the concept that Cambodians did not know about nature conservation until international entities brought and taught the theory to the government or to communities directly. Additionally, although it is perceived that nowadays there is more conservation, the perception tends to be that there has also been more destruction.

> *Now people understand about nature conservation, but before they didn't know about nature conservation because it depends on some organization that came to Cambodia to teach that. Nowadays we have more conservation but also more destruction (Interview 27).*

Several urban individuals mentioned that education, primarily through television programs, were what has allowed people to become aware of the importance of conservation and therefore people who do not have access to television might not know or care about conservation. This idea was that without education Cambodians could not know or understand the importance of nature.

> *Before they don't care about this [nature conservation] but now they care about it and get education from government that it's important. The people who live in the forest without TV don't understand about conservation, TV and education from the government about conservation in school is where we learn these things (Interview 29).*

> *Nowadays we are thinking about nature conservation more than before, now we want to conserve nature, because before we didn't understand the importance of nature (Interview 46).*

> *Compare the situation now to the situation in 1993, like back then, no one understood about the environment, no one understood about nature … but now they know about the word 'environment' and they appreciate the environment and they have the kind of feeling that the environment plays an important role for their livelihood, for their wellbeing … I have seen the increase, people are understanding the importance of environment for their livelihood. It is the result of education, a lot of public awareness campaigns about the environment and nature that have been implemented by the government as well as with the NGO and international organizations and development partners (key-informant Interview 10).*

Although nuanced, with different points touched on by different participants, the overarching theme was that change occurred in regard to how Cambodians conceptualize nature and more directly, their relationship with nature. Whether through development, technology, corruption, international pressure, many interviewees sensed a shift in either how Cambodians' related to nature, or at least how natural resources are consumed in their country. To which date the participants were envisioning was not always possible to determine. Some individuals referenced the war (after 1979), some referenced after the United Nations involvement (1993), some from their childhood, but it can be said that the majority of the change perceived most likely occurred within the past 40-50 years.

*When I was born, I saw a lot of forest but now we have cut so much. If we want to make a village we cut trees, if we want to develop we cut trees. In the past we don't want to develop, we depended on trees, old people say when I was young I lived off nature but now we don't live on nature because of technology. When we live off trees we can save them but when we live off technology we don't care (Interview 43).*

## 5.6 Reasons Why Nature Conservation is Important

Across all the target groups was a strong acknowledgement of the benefits of nature. Although there were a few individuals who did not explicitly state the reasons why conserving nature was vital, most were quick to point out that adequate forest cover could provide valuable services for humans. These included a balance in nature, benefits for future generations, protection from storms and prevention of disasters, income opportunity, tourism, sustainability and rain. As with all these sections, many of these concepts were brought up by the same participants and therefore were not mutually exclusive.

### 5.6.1 Balance

The word balance arose both when discussing reasons to conserve and also regarding thoughts on development. This articulation captures the notion of how Earth itself has a natural balance that needs to be preserved. Whether the participant was referring to managing conservation and development goals, or why wildlife would need to be saved (or not) the theme of a balance was invoked.

***What are the main reasons to conserve?***

*To have a balance on the Earth (Interview 35).*

*In Cambodia some places need to be developed; there will be in some places fewer forests. It is a necessity though to conserve some nature….The people know they have to develop, if we develop without some nature that is a problem, cannot destroy all the nature around Cambodia. Have to have a balance (Interview 5).*

*Biodiversity, nature, seeds, biodiversity for balance. In nature big wildlife eats small wildlife. Now we have no tigers so we have problems with deer and wild pigs. So many pigs destroy the farms because there are no tigers to eat them. And smaller wildlife eat frog, if there are no frogs the insects grow up and insects bother people (Interview 7).*

This concept was not only prevalent with those participants with an education level higher than grade 6 but was more commonly mentioned by university graduates. Those considered very poor or poor did not mention balance. Regarding target groups, mainly urban individuals and key-informants discussed this, while only one villager and no rural or inside locals brought up this concept.

### 5.6.2 We should protect nature because nature protects us

A dominant theme that arose when discussing nature conservation was that conservation was necessary because by protecting nature we in turn protect ourselves. There was a strong understanding that

particularly the presence of forests provides shelter from disasters and also from heat while also providing necessary building blocks for life.

> *Nature can protect from the storm and make rain; we can use nature resources for household things for life. Like taking leaves and trees to make a broom, etc….If you have good soil and good nature, then we can protect from climate change because we have a high temperature in the world and can protect from storms. Nature conservation can protect us from these things (Interview 5).*
>
> *[Nature conservation is] very important because nature helps people, if we live without nature it will be very difficult to live because of high temperatures, disasters and floods because we don't have nature to protect us (key-informant Interview 4).*
>
> *It [nature] means a lot to Cambodians, sometimes we have a big storm and nature helps protect us from the storm. I studied and learned that the trees will take the water, if we have a lot of water and no trees then we will have floods….Trees can protect, without trees the water can move through the city and kill people and produce heavy storm winds. Nature means a lot to Cambodians, we are always looking for trees to shade us (Interview 42).*

Complex hydrological and soil science concepts were brought up by rural and urban individuals as well as key-informants. Although frequently simplified, these arose as commonly understood issues that several individuals mentioned learning from their own experience. Stating that when they cut the trees around where they live, it felt hotter; and when too many trees were gone the rains began to become irregular and did more damage. Individuals recognized that by preserving the forests and trees in particular, they were protecting themselves.

This concept of protection and balance was relevant both to individuals who learned about the importance of nature in school as well as those who felt it directly when living in the rural setting. As can be seen in the quotes above, both the urban, educated individual from Interview 42 as well as the rural individual in Interview 4, mentioned the importance of trees in the prevention of floods and disasters.

### 5.6.3 Nature provides income opportunities

When discussing nature conservation, as well as when discussing the PTWRC, participants frequently mentioned the opportunity for income generation from each. Regarding PTWRC many interviewees were aware of the income opportunities produced from the existence of the rescue centre, including sales to tourists, guides and zoo keepers. In terms of nature conservation, several individuals mentioned the jobs and income one can receive from nature.

***What would you say nature conservation means to Cambodian people?***

> *It is very important for Cambodians because nature helps people. They can have a job from nature, people can get job from ecotourism, can do handicraft, take firewood and can take trees for houses (Interview 35).*

> *Community can earn money from visitors, translators can take people around to see the animals and people can sell food. Community members can go to work with the animals as keepers (Interview 28).*

As touched on in the first quote, participants identified both the direct benefits they can utilize from a standing forest, such as firewood, or non-timber forest products (NTFP) such as leaves or berries, as well as indirect income options such as tourism, which will be reported on below. Some also discussed the entrepreneurial prospects available to local communities when a rescue centre is established.

### 5.6.4 (Eco) tourism

Tourism or ecotourism was frequently mentioned as a sustainable and positive livelihood option when discussing nature conservation. Conserving wildlife in particular meant an increase in tourism, which for several participants was seen as a positive development. Tourism, participants perceived, would be a money-making endeavor which should be encouraged. Several individuals specifically mentioned ecotourism as an alternative livelihood to hunting and poaching and cutting down trees. Some mentioned that they learned about this concept through television programs.

> *Nature is very important, if we conserve forests and wildlife then we will have a lot then people can use the nature to build a community around ecotourism. I learned about this on TV. It is important for the world too because if we have forests that make money for the world and Cambodian especially (Interview 32).*

> *We should save them [wildlife]; then we can have a lot of wildlife. Some countries do that and they have a lot of tourists, that way lots of money can come, it is an opportunity (Interview 19).*

Tourism was mentioned at least once by all demographics and target groups, clearly a prominent notion for Cambodians in regards to Phnom Tamao and nature conservation in general. Demographically 31-45 year olds mentioned tourism the most as well as participants with an education of between grade 6-12. Those considered very poor, poor and not so poor more frequently mentioned tourism than those considered not poor and wealthy (Figure 19). When broken down by those individuals living outside of the city and urban individuals (of which there were 25 each), those living outside of the city mentioned tourism twice as much as urban participants.

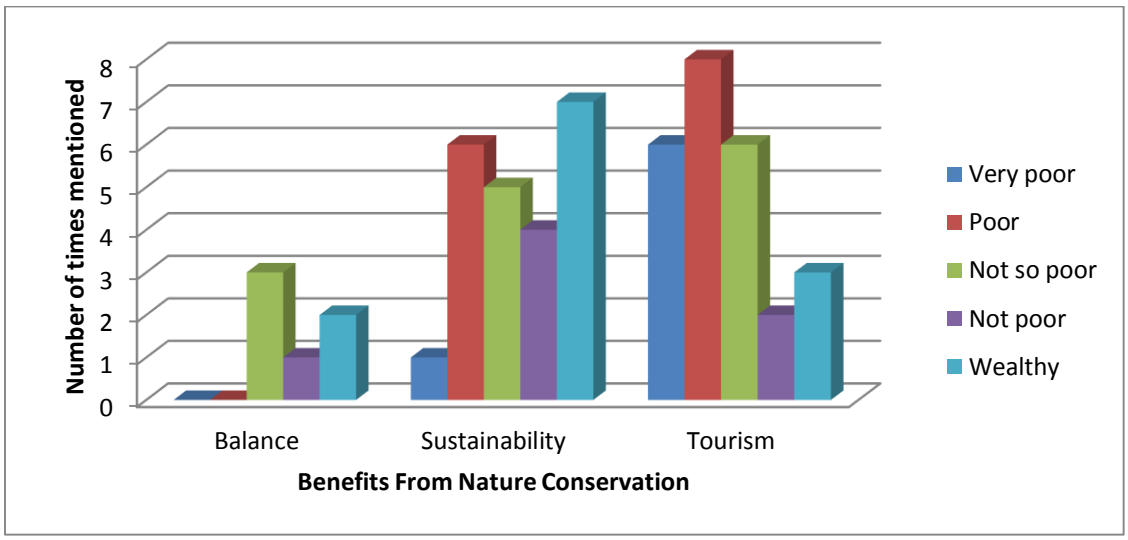


**Figure 19: Perceptions of benefits from nature conservation expressed by different income groups**

### 5.6.5 Sustainability

Specific questions regarding sustainability and its meaning were not directly asked in this study but several participants mentioned this term when discussing nature conservation. Sometimes they would refer to sustainability by name and other times interviewees would mention the concept of protecting nature for the next generation. These concepts were taken to mean approximately the same thing, denoting the idea of making something continuously available in the future.

> ***What is your opinion of nature conservation from your experience?*** *It is good, if we conserve nature it will be sustainable (Interview 28).*
>
> ***What does the term nature conservation mean to you?*** *I don't know the term nature conservation, but I understand that it is to save nature and make it sustainable for next generation and to save forests (Interview 33).*
>
> ***What is your opinion of nature conservation?*** *Nature conservation makes Cambodian people to protect nature in order to make it sustainable (Interview 2).*

Urban individuals mentioned sustainability the most of all the target groups, while inside locals and villagers only mentioned the term once and twice respectively. Rural individuals mentioned it in more than half of the interviews. The frequency of mentioning the term in respect to education increased with the increase in education, resulting in university educated individuals mentioning the concept most. Wealthy individuals were also the most common income group to mention sustainability, although individuals considered poor mentioned it almost as much (Figure 19).

### 5.6.6 Because "forests make rain"

Cambodia, although threatened with deforestation, still has a significant amount of forest cover and as a Southeast Asian country also experiences intense rains. For many participants in this study those two

concepts, forests and rain, were highly related. A common statement that was expressed by interviewees was that forests make rain, and that was one of the most important reasons to conserve trees.

> ***What does nature conservation mean to Cambodians?***
>
> *In my opinion, I think nature conservation has meaning for Cambodian people because Cambodians can get benefit from conservation. If the tree grows big we can use it, we can get the tree, forests get rain, temperature control - shade is cooling, I learned that from my own experience (Interview 23).*
>
> *It is good to conserve nature, if we conserve nature we will have a lot of forests and forests make rain. For example in the rainy season…..If we don't have them the seasons won't be regular. I learned this when I studied about science, if we have a lot of forests they can bring clouds to make rain (Interview 36).*
>
> *When there was a fire and when there was no trees it was hot, the temperature was higher. That is bad because it's too hot. It is important for the government to do this [nature conservation], because when there is a lot of forests they can make the rain. Forests make the rain (Interview 4)*.

Of the target groups, urban individuals mentioned this statement the most, followed by villagers. Key informants and inside locals only mentioned this idea once. Regarding income levels, those considered poor mentioned this concept almost four times as much as any other income group, while wealthy individuals did not mention this at all.

## 5.7 Threats to Nature, Wildlife and Conservation

Participants appeared to be acutely aware of the possible threats to wildlife and nature conservation and were open to talking about some more than others. While all interviewees were assured of their confidentiality it occasionally was clear that participants were hesitant to use certain words and instead would describe some scenario to convey a situation that might be endangering wildlife or impeding conservation. One of these terms was corruption; this concept was referred to often but only rarely was the word corruption actually used. Some other reoccurring perceived threats were habitat loss, hunting, the illegal wildlife trade, land concessions/logging, poverty and war. Most participants named several of these perceived threats during the interview.

### 5.7.1 Corruption

Corruption was only directly discussed by urban individuals and key-informants. A few individuals hinted at the concept although did not use the term directly. Those that did discuss it openly perceived that it was one of the main reasons conservation was not being enforced properly or that it was leading to further forest loss.

*There is not enough [nature conservation] because of corruption; because people can still get away with cutting trees and stealing, they can pay off the police (Interview 20).*

*We have a lot of places that are conserved but not protected well because of corruption. They still cut down the trees; the FA [Forestry Administration] earns money from business that cut the trees. FA allows that because they get money. The people who cut the trees don't get much money but the brokers make a lot of money and pay off the FA. He knows this from hearing it mouth to mouth. For example a tree can cut for $1,000 for tree cutter and $30,000 for broker (Interview 29).*

*For example a family with 5 members that have 5 [illegal] electric wires, they can catch more than they need. And commune police allow that nowadays because it is nearly the election, they don't take care. Before when they catch people who use the electrical wire or catch someone killing wildlife they would fine 100,000-200,000 riel but not now (Interview 22).*

The corruption mentioned by participants related to illegally capturing wildlife as well as logging, both perceived to be a detriment to nature conservation and forests in general. Those in the 18-30 year old age group mentioned corruption more frequently than other age groups. Those considered not poor or wealthy named corruption as a threat to nature conservation most frequently.

### 5.7.2 Deforestation/illegal logging/habitat loss

There are several ways of describing loss of forest cover: deforestation, illegal logging, and habitat loss were the three most common terms described by participants in this study. All related to the degradation of forested areas which for those who named them related to threats to wildlife survival and threats to successful nature conservation.

*Forest is habitat and if they cut trees then no forest or habitat. All around Cambodia is developing and this is the cause of deforestation and that's a problem, we need to make protected areas to save wildlife (Interview 13).*

*[Wildlife] get threats from deforestation, cut tree to get land, trading for business or food at a restaurant. Some wildlife lose their habitat and some are caught to make traditional medicine (key-informant Interview 4).*

*The main threat is illegal logging, and increasing of [human] population. For example, before Cambodia forest was 75% of land and now it is going down, down to only 40% of the land. This reduction of forest takes away homes from wildlife and when you take away the forest they [wildlife] have nowhere to hide, they lost their territory, so they can come nearby to the village. Where people live, then people can capture them easily, because they can be found easily. And also when they get less natural habitat they breed less, these are the main threats (key-informant Interview 9).*

As can be seen in this last quote, according to this key-informant illegal logging was leading to not only massive reduction in forest cover but also creating further problems for wildlife including a loss of protective territory, leading to close encounters with humans as well as decreased fertility. Several

participants recognized these inter-related, knock-on impacts of deforestation and habitat loss. Of the different education levels though, university graduates mentioned much more frequently the threat of habitat loss.

### 5.7.3 Hunting

Across all target groups and demographics hunting was mentioned far more frequently by participants than any other perceived threat. Hunting of wildlife was named as one of the first threats interviewees thought of when discussing threats to wildlife and challenges for nature conservation. Sometimes the hunting was perceived to be for money and sometimes for food, occasionally for both. Hunting was also suspected to be perpetrated most commonly by poor rural families.

> *Wildlife gets threat from hunting, for example the snare, or gun, this is in all of Cambodia (Interview 17).*

> *I don't know about all of Cambodia but here they get threat from people, they shoot or use snare and catch wildlife for selling and eating. Nearby the forest they kill snakes. In my opinion it is not good to kill wildlife, if everyone wants to kill then none will be left, so next generation will not know wildlife. In this community in the past they had some wildlife but not much wildlife left already, only the tree shrew is left (Interview 23).*

Individuals who were considered poor and urban target group individuals mentioned hunting the most; while the very poor mentioned it the least of the five income groups. A few individuals felt that hunting was not an issue anymore because it was illegal and therefore no one hunted.

### 5.7.4 Illegal wildlife trade

Alongside hunting, several participants spoke more directly about the illegal wildlife trade. This involves covertly hunting and selling live or dead wildlife for traditional Chinese medicine or for gourmet meals, either in Cambodia or abroad. Overall there appeared to be a general knowledge that hunting wildlife in Cambodia was illegal but there was also a perception that despite its illegality wildlife was still being traded. Some interviewees even delved into why this might be.

> *I think Cambodian people know about nature conservation but some people don't think about it, they only think about money, because when they catch the wildlife they can sell it, for example 1kg of wildlife - $5, only $2 for 1 kg of fish. They know it's illegal but they need money. I think the government should enforce the policies and provide other options, like in Europe they stop cutting trees and killing wildlife because they have other options (Interview 22).*

> *Some people who stay in poor family do this to support family and some families just like to eat wildlife. They sell to Kandal and locally. They catch and eat snake, fishing cat. It is all illegal but the government is not strong enough to stop it (Interview 23).*

> *People shoot animals for traditional medicine and for eating. They eat them in the countryside where they live near the wildlife; also in Phnom Penh in high class restaurants. I have not tried; it is strange meat (Interview 32).*

Some participants did admit to occasionally trying some illegally hunted meat, mainly wild pig; and some admitted to previously hunting wildlife for a livelihood. No one discussed currently hunting or knowing anyone who hunts.

### 5.7.5 Land concessions

Land concessions were only specifically addressed by key-informants, who referenced them as a major threat to wildlife and conservation.

> *In Cambodia, land concessions are the biggest challenge. It is so difficult because it's the government who grants the land concessions to private companies, some inside Cambodia, some overseas (key-informant Interview 2).*

> *Yeah you might just sell off a small portion of some forest as a concession but that might be the last remaining corridor for elephants getting to their annual water source (Key-informant Interview 8).*

It can be seen that land concessions are perceived to be a significant threat to the strategic planning of conservation organizations and workers. After years of work conserving a region, the government could easily grant a land concession of a protected area for a rubber plantation and all the work would be for nought. This topic was not specifically asked about and therefore might be something participants knew about but just chose not to discuss, but the issue was directly brought up by key-informants. The issue of land concessions for non-key-informant participants might have been represented in some of their 'roundabout' statements regarding corruption. Land concessions tend to be related to 'backdoor' deals done without informing communities and/or organizations until after arrangements are made. In the region where this study was conducted though, no such land concessions existed. They were mainly happening in other parts of the country.

### 5.7.6 Poverty

As discussed in section 2.2.2, poverty is still a major issue in Cambodia. This was mentioned by some participants in this study. Poverty was seen as a major hurdle to any successful conservation attempts. Many claimed that any efforts could be undermined if communities were still suffering from hunger in particular and without secure livelihoods. Poverty was still an issue even around Phnom Tamao where many families previously would hunt for food and cut trees for money.

> *Poor families need to hunt for food, but only a small group. Now they have business in Phnom Tamao so they don't want to kill. Maybe only 3% are still hunting; they stopped though because of police patrol (Interview 18).*

A few individuals touched on the perception that yes, poor families hunt for necessity, but also acknowledged that perhaps they also like the taste of the wild game.

> *Some people who stay in poor family do this to support family and some families just like to eat wildlife (Interview 23).*

Key-informants were also quick to mention the reality of poverty and its impacts on conservation efforts. They perceived that even if the poor individuals are not necessarily the driving force behind the illegal wildlife trade, they end up being the perpetrator and also the ones that get prosecuted.

> *We talk about first, poverty, 20% are living under the poverty line and 2nd illegal activity. Like hunting and poaching and illegal logging and illegal fishing. Perpetrated by poor people and a few corrupt powerful people. Government is of course trying to crack down on these people, powerful person who use their power wrongly (key-informant Interview 10).*

As several key-informants stressed, it is hard to even focus on conservation when the country is still tackling hunger and poverty.

> *The biggest challenge is the livelihood. The people who live under poverty line. Because we don't have all the needs because they need to cut trees to earn money because they are hungry. If they don't have food they don't care about other things (key-informant Interview 4).*

> *I think we have to improve local livelihood. Improve living standard. Feed stomachs first. If the stomach is hungry the ear can't hear (key-informant Interview 5).*

Whether poverty is a significant threat to conservation or not it is still clearly something participants were considering when thinking about the future of conservation in Cambodia. Wealthy individuals mentioned this issue the most out of all the income levels, with the very poor and poor only mentioning it once.

### 5.7.7 War

Cambodia's recent history makes this study that much more intriguing. There are clear dividing lines in time that create a before and after in Cambodians' minds. A significant one is the Pol Pot/Khmer Rouge regime, frequently referred to by participants simply as "the war". Several participants recalled forests before, during and after the war and perceived the war as something that severely degraded the forest landscape.

> *Before the Khmer rouge we had a lot of forests, people liked forests because the forest could make them happy and provide a livelihood, grow rice, etc. but during the war the forest was destroyed (Interview 14).*

> *Because in this past we had Khmer Rouge and the people killed wildlife for eating, right now we can improve wildlife by conservation, PTWRC helps with that (Interview 18).*

> *War was a threat [to wildlife], 20 years ago, the Vietnam war killed a lot of wildlife from bombs. Some people from the United States bombing killed wildlife and destroyed forest (Interview 34).*

Individuals considered very poor mentioned the war the most, followed by poor and not so poor, while not poor and wealthy individuals barely mentioned this as a consideration. Those in the 31-45 year old age group were the largest age group to discuss the war as a factor in forest and wildlife degradation, with only one 60+ individual mentioning it.

## 5.8 Development versus Conservation

When talking with participants about their opinion on conservation in their country it was relevant to also delve into how they thought it should be managed alongside the country's rapid development. A simple way to get participants to express their thoughts on how the country should manage this potential conflict was to ask them to break the country into percentages. Those that thought more should be developed, prioritized development, and vice versa for conservation, when a participant considered both (conservation and development) as equal priorities this was expressed as 50/50.

### 5.8.1 Prioritized by percentages

Asking individuals to conceptualize nature conservation in Cambodia as the percentage of land conserved helped determine how participants prioritized development and conservation. It also appeared to provide an easy way of breaking down a complex discussion. Participants in this study varied, while most preferred a fair, balanced and even partitioning of development and conservation, several slightly preferred conservation and others prioritized development.

> *It is possible [to conserve nature], Cambodia is developing, we need to develop a lot, but we don't need to develop the whole country. We should take some part to do some conservation, and some part to develop, 50/50 (Interview 26).*

> *Conservation is better than development. Development and conservation need to work together, both are necessary; I think they should be 50/50 (Interview 29).*

> *Government should only development 10% [of Cambodia's land], they should save 90% of the forests (Interview 15).*

> *Maybe only a small amount should be conserved because a lot of people and places need to develop or communities need hunting. Perhaps 20% conserve, 80% will be developed (Interview 21).*

> *We need both, can't have just one, need to protect and progress. 60% development, 40% conserve. If we don't do this [conserve] everything will be lost (Interview 47).*

Considering all of the target groups, overall more individuals thought both were priorities and did not specify one being more important than the other. When considering just those who stated development

or conservation as a priority, more villagers chose conservation and more urban individuals chose development. Rural individuals were split evenly between the two. Except for the 31-45 age group, all other age groups stated that both are a priority for them, as opposed to 31-45 year olds who more frequently mentioned conservation as a priority. Those in the 18-30 year old age group slightly preferred development over conservation but still more mentioned both as priorities for them. Individuals with less than a 5th grade education more frequently mentioned conservation as a priority, with a few mentioning development as priority, none mentioned both being important. All those with higher education prioritized both, with conservation and development being split between the rest of those who mentioned them. Across the income groups, most thought both were priority, with only the poor, not so poor and not poor mentioning development as a priority (Figure 20). The poor income group mentioned conservation as a priority the most out of all the income groups even though that was mentioned the same amount as development being priority (both being mentioned four times by the group considered poor).

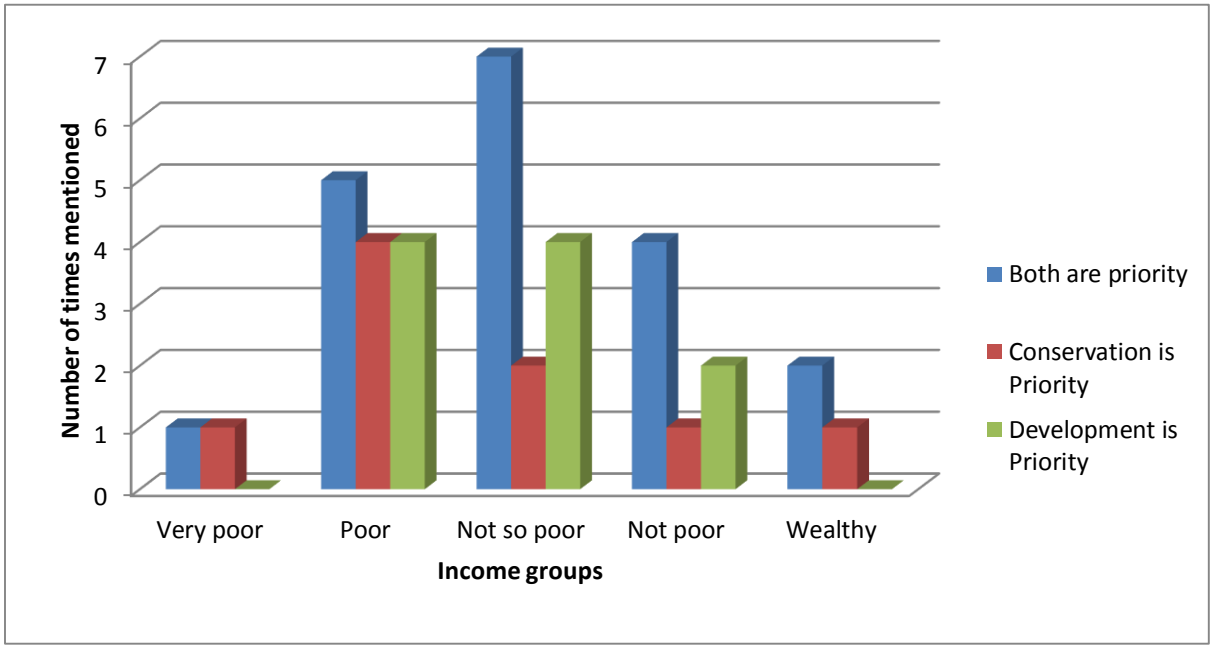


**Figure 20: How participants prioritized conservation and development within the different income groups**

### 5.8.2 Cambodia as a developing country

Several individuals stressed that since Cambodia *is* a developing country – therefore it needs to *develop*. Development and economic growth, particularly how most countries have historically developed (by converting much of their own country's landscape), will certainly have impacts on conservation priorities. It was beyond the scope of this thesis to examine how the notions behind what is considered successful development might play into participants' conception of this idea in particular, but it obviously has an effect on how individuals perceive "normal" economic growth. Those that mentioned particularly that Cambodia *is* a developing country were taken to imply that it therefore has a right to convert its forests in order to grow, economically and socially. What kind of development and growth

Cambodians are envisioning and the meanings behind these topics for Cambodians would be interesting to explore further.

> *It is not possible to compete with development; we need to develop (Interview 37).*

> *Cambodia is developing country so some parts should develop (Interview 50).*

### 5.8.3 A place for everything and everything in its place

For some participants development appeared to mean buildings and physical construction, therefore answers regarding conservation and development stated that there was space for both, without necessarily impacting one another.

> *It is possible to conserve because if they want to develop they should find a place somewhere else, that doesn't have forest. If there is already a forest we should save that forest. So it is possible to do both (Interview 7).*

A recurring concept was that there were spaces that did not have forests and it was those spaces that could be "developed". It was also mentioned that if Cambodia developed the entire country, that that would also cause problems.

> *In Cambodia some places need to be developed; there will be in some places fewer forests. It is a necessity though to conserve some nature. But some development will happen. The people know they have to develop, if we develop without some nature that is a problem, cannot destroy all the nature around Cambodia (Interview 5).*

Several participants acknowledged that conserving all of Cambodia would not be possible, and that there are some "less important" places that should be developed. As described above most interviewees felt that conservation and development were both priorities for them and Cambodia as a whole and therefore they should "work together".

> *Nowadays nature conservation and development should work together, we need both. Can't conserve all of Cambodia, some place that has a not very important forest they should develop there (Interview 24).*

### 5.8.4 Competing interests

Working together sounds like the ideal solution but a few participants addressed the issue of competing interests between two distinct groups.

> *There are two groups, one group wants to save [nature], one group wants to destroy. Conservation group wants to save, i.e. the environment ministry, agriculture, Cambodian groups and some people that live nearby the forest. But some that work in government who have power and businessmen want to destroy the forest. Some people have business that work in the*

> *government so they have power…The two groups have to compromise (Interview 35).*

One participant expressed the need for grassroots solutions to these issues, involving communities that are directly impacted by the decisions:

> *Cannot do all things separate we should talk to each other and decide what we want, development or conservation. Some places we develop some places we save. Development and conservation are both important, we should work from the bottom up, village to commune to government and back down to support the villages wants (Interview 18).*

## 5.9 Keys to Nature Conservation in Cambodia

Many interviewees were hopeful that successful conservation in Cambodia was and is possible. There were several ideas discussed that would allow for successful conservation. The overarching themes included education, enforcement, solving the poverty issue, long-term planning and alternative livelihoods.

### 5.9.1 Education

Education was a commonly cited solution to managing the threats that nature conservation faces. Education was also a reoccurring theme throughout the interviews, regarding how participants themselves knew of certain environmental concepts, along with opinions on how education might influence ones' relationship to and knowledge of nature. Education was seen as a way to expose people to the importance and value of nature which would in turn make people respect and care more about conserving it.

> *First we should set up nature conservation education for everyone. And then we need law enforcement of nature and wildlife and also the government need to increase their work on protected areas (key-informant Interview 9).*

Several interviewees felt PTWRC was providing educational experiences for Cambodians which was valuable for conserving nature.

> *PTWRC can connect people with nature; Phnom Tamao can help Cambodian people relate to nature, they can experience native nature and wildlife. It is very important for people to understand about wildlife and forests so they will stop cutting down tree and killing wildlife (Interview 13).*

Another perspective around education was that there should not only be education about the environment and nature but there should also be information about the laws and consequences of breaking them.

> *We should change step by step, because right now we have a lot of elders who don't have education, so they don't believe that anything bad will happen without a forest. So in the future if more people have education about the importance of conservation, then we will be able to conserve more (Interview 3).*

Several participants stated simply that the government needs to "provide education about nature" (Interview 47), but, as a few acknowledged, education might not be the only answer since "it's difficult to control what they use and we can't control what people do" (Interview 47).

### 5.9.2 Enforcement

Better enforcement of laws protecting nature was felt to be a significant contribution to successful outcomes for conservation. Many participants did not feel empowered to do conservation themselves and strongly felt it was the government's responsibility and therefore they should be the ones who enforce its compliance.

> *Grassroots cannot do conservation, only government can do that. If the community wants to do that [nature conservation] they should request to their government to conserve more and enforce that (Interview 21).*

Interviewing one lawyer revealed that he felt the laws themselves were not strong or tough enough on those that commit crimes against nature. He perceived that they would need to be improved in order to be able to hold perpetrators responsible.

> *In order to conserve nature we need to reform the law that talks about forests because the law is not strong enough. Right now we don't have strong enough laws to punish the people who commit crime [against nature] (Interview 29).*

Several interviewees discussed the dilemma of weak enforcement by rangers themselves, whether due to being understaffed or because of corruption. Even the quality of the rangers training was questioned by one participant.

> *There is not enough conservation. The government needs to protect more nature, improve the quality of the rangers to protect the forest from people who kill wildlife and catch wildlife poachers (Interview 3).*

Key-informants also picked up on this notion as a problem for conservation in Cambodia. A lack of law enforcement inherently weakens the protected area systems, potentially making many of the regions only "paper parks" – or national parks that only exist on paper, left without the necessary resources to manage a true national park.

> *Overarching lack of enforcement of law, weak governance, from that stems no joined up spatial planning, all that leads to people going into the protected areas (key-informant Interview 3).*

### 5.9.3 Eradication of poverty

Poverty was mentioned a few times by participants as a leading cause of environmental degradation; interviewees stated that poor families did not worry about cutting trees or hunting when they were starving. They also discussed that for them ending poverty and meeting the daily needs of poor

communities was a priority over conservation. Therefore in order for some conservation to move forward, particularly in regions where poor communities live, eradication of poverty needs to be addressed since according to some interviewees, poor individuals are not in a position to care about conserving anything when they are struggling to just survive.

### 5.9.4 Tourism

One way to ensure conservation mentioned by participants was the prospect of tourism. Several felt that conserving a forested region or replenishing wildlife populations would encourage tourism which could provide income opportunities for communities living in the area. As reported above, several interviewees mentioned learning about ecotourism projects around Cambodia from TV programs. Many individuals referred to the tourism opportunities that exist at Phnom Tamao as a model of how villages living around a conservation project could benefit from income opportunities and tourists.

### 5.9.5 Alternative (sustainable) livelihoods

While tourism could be included under the concept of alternative livelihoods, several individuals referred to other livelihood alternatives that could be arranged in order to provide income for families that were currently pursuing illegal activities like poaching and logging. These varied from government established factories to agriculture.

> *Government should provide jobs for communities like factories (Interview 11)*.

The recognition that not everyone can benefit from tourism or an establishment of a rescue centre led to some individuals stating that the illegal activity might continue until everyone's needs are met.

> *Government should provide education to make people stop, but some will still do it illegally. Some people stop because they work now at Phnom Tamao, but small group don't have benefit from Phnom Tamao, maybe they have to hunt in the jungle still. If the hunter kills wildlife, and get caught they will go to jail. Government should help those people who don't have an alternative, provide factories, etc (Interview 18).*

As will be reported further in Section 5.10, some drawbacks were perceived to come from conservation which participants felt should be alleviated by the government or by NGOs through alternative livelihoods. Some individuals acknowledged that since the people who would be impacted also most likely do not have a high level of education, they will need jobs that suit their skill level.

> *I am thinking about this too [individuals who are impacted by conservation in a negative way], when we conserve nature, what about the people who always use the nature? We should provide them a new business; replace their lost income from not being able to use the jungle. Small business because the people in the communities some have low education, they cannot find a good job. For example, like raising fish or vegetables. I think the government or an organization should think about this (Interview 27).*

> *When you talk about conserving [an area], we need to find the alternative, for the local community we can't forget about the people and focus only on conserving or protecting the natural resource, need to provide alternative livelihoods for the people if we want to have natural resource and conservation management. The government should provide that. Which of course there are many programs done by the government and also by key stakeholders that try to provide an alternative for the local community (key-informant Interview 10).*

Key-informants and urban individuals tended to suggest a variety of alternative livelihoods, (i.e. farming, aquaculture, ecotourism) while participants from outside of the city more frequently referenced the government providing jobs in factories.

### 5.9.6 Long term planning

Education, enforcement, tourism, poverty reduction and alternative livelihoods were all reported to be ways to improve conservation. Though, for a few key-informants, if those approaches were implemented separately and disjointedly, it would not be enough. Several key-informants mentioned that long-term planning was the only way to ensure the longevity of protected areas. Participants claimed that due to a lack of a long-term strategy, all conservation efforts were at risk. At any point the government could change their minds and convert a huge swath of protected land to development or plantation. The goal of 60% forest cover included plantations, which raises concerns for biodiversity goals, and without strong property rights these areas can change hands quickly without communities knowing.

> *Actually we recognize the protected area system is too large for our economy, we want to use these resources. For example, if we know that one area is important for conservation, but figure there are places that could be developed, then they could implement that plan. Then at least the conservation organization or local community could feel that a certain area is secure. This area will develop but this area will be managed in a certain way. And that means there is stability but as it is, it appears so ad hoc. So one day after 10 years of conservation work you may find out there is a concession. That is just randomly signed off by the government, so it is very hard to plan. And even for the government it is hard to buy into conservation work, it is a long term process, talking 10-20 years to manage sites to get them established and functioning. When there is so much insecurity in land that is a major impediment (key-informant Interview 3).*

As articulated above, the lack of a long-term vision for the country, conservation and development wise, leads to insecurities across the board, within the NGOs and with the government. When discussing the future success of conservation in Cambodia and the future challenges, clear plans and strategies would, according to several key-informants involved in both the government and NGOs, allow for all the other aspects to succeed as well.

## 5.10 Considering Drawbacks

Participants also were able to envision some drawbacks to conservation. Some of these would result from long-term successful conservation efforts, such as increased wildlife populations (more tigers in villages?), as well as the more current dilemma of limited access to resources due to protected area establishment and enforcement.

Human/wildlife conflict is a reality for conservation all over the world, from wolves in the United States, to tigers in Nepal, to lions in Tanzania, as well as predicaments arising from communities being denied access to forest resources they have benefited from for decades, such as in the Amazon and South Africa. These issues were fairly familiar to participants in the study and were specifically mentioned by most, while there were also a few individuals that did not feel conservation had any negative aspects.

### 5.10.1 Drawbacks of living with wildlife

Within the Phnom Tamao protected area, some participants identified some drawbacks of having wildlife around, mostly regarding raiding of crops.

> *Drawback is that sometimes wildlife eats crops but for me, I don't mind (Interview 14).*

> *Some participants were more concerned that if wildlife was to increase around the forested areas they would then become a threat to humans: "nature conservation doesn't have drawbacks, but if we conserve wildlife maybe humans get risk from too much wildlife that can be a danger to humans" (Interview 26).*

Most key-informants did not feel the drawbacks related to living with wildlife were insurmountable or even that big of a deal for community members. They felt that the benefits outweighed the drawbacks in most cases:

> *I think the local people that grow crops that get raided by the animals might be annoyed, but I think that they benefit from the increased trade that Phnom Tamao brings….If you ask local communities if they want Phnom Tamao there or not, everyone would say we want it there. I think there are one or two small negative impacts but I think people would prefer that natural environment (key-informant Interview 1).*

### 5.10.2 Drawbacks of restricting access

When discussing drawbacks with individuals not living in the protected area, issues of reduced access to resources was the more common topic mentioned. Participants had more of a general idea of how individuals who live off the forests might be impacted by conservation developments.

> *Small families and small groups of people experience drawbacks because they can't use the forest or kill wildlife (Interview 18).*

> *The government thinks conservation is very good and important but the people who live near the forest, they depend on and use the forest and they are mad because they cannot use or get resources from the forests anymore (Interview 22).*

Several key-informants were also more deeply concerned, particularly individuals whose organizations were involved in some of the restricting activities, about how to responsibly go about providing alternatives and evaluating how communities will be impacted.

> *Sure depending on how it is done [there will be drawbacks], from a human perspective, there can be impacts. Human's access to resources and land could be impacted. I think it is the responsibility of those groups to take that into account, not that you have to rehouse people but like the MPA (marine protected area), there are very short consultation periods which is a concern because you can see what will happen, reducing access to resources in certain areas, in the bigger picture that should lead to improved resources overall but people are going to be impacted, individual families are going to be impacted, so it would be irresponsible to not take that into account (key-informant Interview 3).*

As touched on in this above quote, although the drawbacks may be limited in variety this does not make them simple to solve; they are complex and emotional.

## 5.11 Summary

This chapter has presented the analysis of 60 interviews. It identified and organized the vast array of topics discussed by participants into themes to help understand how Cambodians interpret nature conservation and many of the other issues surrounding it, including nature, wildlife, and the Phnom Tamao Wildlife Rescue Centre. The qualitative research methods allowed for a variety of opinions to be explored without the limitations of a questionnaire survey, which might have confined the study to only the terminology familiar to some participants.

The first main constructions revealed in this study were PTWRC as a zoo, a resort, a place for wildlife conservation and for raising wildlife. Dynamic themes also arose around nature, including nature as items used such as air, water, fish and trees; nature as happiness and wellbeing; nature as protection and balance; and nature as not manmade. In its wider conceptualization, nature conservation revolved around it providing "protection" of nature, and participants' conceptions of it. Discussions of nature conservation also revealed themes around tourism and sustainability as well as revealing how it occasionally was an unfamiliar term. The research also exposed general perceptions of the "other" and the "past".

Overall the data shows that Cambodians possess a range of knowledge's about nature and nature conservation. Many participants were familiar with threats to forests and wildlife and the decline of wildlife populations and forested lands. Individuals also had suggestions on how to alter these trends and expressed their opinions on the appropriate priorities for Cambodian development and conservation.

Interviewees knew of drawbacks resulting both from conservation and development and held several different conceptions of nature and wildlife. These constructions varied across demographics and the target groups but there was also a significant amount of overlap leading to the overarching themes reported above. Chapter 6 will tie some of these dominant themes back to the theoretical framework of social construction theory, and put them into cultural and historical context. This will provide explanations as to why some of these themes arose and will examine why they may have differed geographically or demographically. The chapter will also take these findings into consideration and attempt to answer the overarching question of what nature conservation means to Cambodian people.

# Chapter 6

# Discussion

## 6.1 Introduction

This thesis examines how the complex concept of nature conservation is conceptualized by Cambodian people. The broad research objectives were to explore how the perceptions toward nature, wildlife, nature conservation and the Phnom Tamao Wildlife Rescue Centre vary across geographical locations (between the rescue centre itself and the capital, Phnom Penh) and demographically measured through: income level, education, gender and age. The research findings set out in Chapter 5 present a wide range of themes invoked by the concept of nature conservation and how they vary across these parameters. This chapter links the research findings to the theoretical framework of social construction of nature theory set out in Chapter 3.

The chapter begins by exploring conceptions of Phnom Tamao Wildlife Rescue Centre. It then examines how ideas surrounding nature vary demographically and geographically, and how those constructions of nature play into associated meanings of nature conservation. This is followed by a discussion on perceptions of the "other". From there the complexities revealed in this study are examined, along with the overarching meaning of nature conservation to Cambodians. These strands are pulled together to draw out future implications for nature conservation in Cambodia.

## 6.2 Exploring Conceptions of Phnom Tamao Wildlife Rescue Centre

How Phnom Tamao Wildlife Rescue Centre is conceptualized by Cambodians living nearby and those living in the city reflects both what it has developed into and what impression individuals have of it. Discussed below are potential explanations for why the most prominent of the constructions revealed were expressed by a few of the demographic and target groups.

Phnom Tamao was conceptualized in four different ways: as a zoo, a resort, a place to raise animals and a place for wildlife conservation. It was revealed that those with less than a grade 5 education, those who were very poor or poor and those in the rural target group did not associate PTWRC as a place for wildlife conservation. Also only one woman mentioned that as a purpose for the Centre. This suggests that the concept of wildlife conservation is not shared by all and perhaps might only be something that those familiar with the objectives of the centre know about. Wildlife conservation is not something clearly connected to Cambodians' notions of Phnom Tamao, particularly those who have lower education and are considered very poor or poor.

This finding intersects interestingly with the case that poor individuals and women most frequently conceptualized PTWRC as a place that "raised wildlife". This could potentially be considered wildlife

conservation in the mind of key-informants who are conducting breeding programs at the Centre. Raising wildlife was the most common construction expressed by women; this could be related to the cultural reality of women being the primary caregivers of children in Cambodia. Potentially, because raising babies is their priority in the family, they also readily recognize that as a purpose of the rescue centre.

### 6.2.1 How PTWRC influences conceptions and knowledge of wildlife

It is a goal of PTWRC to influence Cambodians' behaviour towards wildlife by exposing the negative impacts the illegal wildlife trade has on biodiversity and to individual wildlife. Clearly, the Rescue Centre has provided a venue for Cambodians to learn about their native wildlife. The majority of the participants had visited PTWRC. When discussing wildlife they were able to name several native species, even some of the more rare species. For some, Phnom Tamao also illuminated the complexity that lies within the definition of wildlife. When exploring what wildlife was to participants, several recognized that whether an animal was wildlife depended on its relationship to humans, with animals like the elephants in the Rescue Centre complicating the issue further, such as with Lucky the elephant (section 5.5.4). How an animal can be wild and domestic at the same time, depending on its relationship to humans, was an interesting acknowledgement from a few participants in this study. They were aware of the complexity wildlife might experience when it is converted from its "natural" position, particularly large and powerful ones like elephants.

As argued by Susan Davis (1996) in *Uncommon Ground: Rethinking the Human Place in Nature*, institutions like SeaWorld Busch Gardens (wildlife parks and zoos in general) reinforce elite ideas around nature being pure and separate from humans. These, she argues, are western, middle-class ideals that have existed for many years that are then capitalized on through commercialization of nature's appealing "magic". This does not necessarily directly relate to what exists in Cambodia and with Phnom Tamao, but it does raise the question of where the model comes from and how it is influencing Cambodians' conceptions of nature today. Arguably this is evident in this study whereby some participants did envision a necessary "separation" between humans and wildlife, although not a separation between humans and nature. This is most likely a relatively new sentiment that is potentially being reinforced by the existence of zoos which exemplify this segregation, alongside the rapid urbanization of the country.

It is feasible that the existence of PTWRC has also influenced the shift that Cambodia is already experiencing, one that is leading to further separation between humans and wildlife. PTWRC creates a place for wildlife to be and to be seen and learned about. It is used to teach people about native species. It perpetuates the notion of a separation between wildlife and humans. However, some participants in this study demonstrated awareness that these dualities were not real and therefore only saw Phnom Tamao as a zoo or a place that held captive animals which was not the ideal. They recognized that the

contrived separation of nature and people was not relevant to their way of life or their relationship to nature and wildlife.

A main difference between SeaWorld and Phnom Tamao is that PTWRC was developed in order to provide a place for animals to go which were rescued from the illegal wildlife trade. This trade initially grew due to outside demands, and whether or not hunting wildlife was a part of Cambodian culture historically, it was exaggerated by this demand that therefore risked the health of ecosystems, prompting the government intervention to make hunting illegal. Phnom Tamao Wildlife Rescue Centre was inaugurated in January 2000. After it struggled to adequately care for the wildlife that arrived, it was assisted by several international (western) NGOs in the early 2000s. They helped develop it into what it is today: a zoo, a resort, a place for wildlife conservation and breeding as well as a rehabilitation facility. It is fair to say that the NGOs working with Phnom Tamao would rather see all these animals in the "wild", as several key-informants mentioned, but that PTWRC was necessary as a place to bring the animals and a place for public education.

## 6.3 Thoughts on Nature

Castree and Braun (1998) along with Macnaghten (1998) claim that when attempting to answer the question of what is nature, that the answer is multifaceted and highly dependent on context and time. They would contend that nature itself and the relative nature participants' experience influences their commentary on the subject. That is why it was prefaced in the results that this study's findings are representative only of this region of Cambodia. Conceptions of nature can vary drastically between cultures and even within what is assumed to be one culture, such as Khmer. For example, were this study to be conducted in another area of Cambodia the responses would most certainly differ. The region where this study was conducted comprised a protected area, a buffer zone around the protected area and the urban environment. None of the participants in this study lived in a jungle or a coastal region; this therefore had an impact on their responses. As touched on in section 5.4.1, very rarely were birds mentioned as an example of wildlife. This might not be the case if this study was to be conducted in a region where large bird species are more common. Arguably, the reality of what nature surrounded the participants contributed to how they described, attached meaning and perceived threats to nature.

According to Williams (1972) the word 'nature' is perhaps the most complex word in the English language. This study illuminates how this is also true in Khmer. Even the direct translation of "taum machete" as the source of dharma is a highly philosophical and complex definition. As displayed in chapter 5, individuals' understandings of nature varied. But regardless of the immense complexity of the topic itself, for the participants in this study, nature could be summarized in one word: life. Nature was described to be many different important things to Cambodian people: materials for sustenance, happiness, protection, spirituality. It was "everything" even when not explicitly stated to be "everything". Notably, individuals with a university degree and those living in Phnom Penh most frequently mentioned that "nature is everything".

This is an interesting finding, that those who are educated and living in the city might conceptualize nature as being all that surrounds them instead of something separate from them. Perhaps this implies that since until only recently Cambodian people had lived more directly with nature, they have retained their connection with nature. Even after moving to the city and living an urban lifestyle they still do not consider themselves separate from nature, as potentially a western person would.

### 6.3.1 Nature is air, water, fish, trees!

The term natural resource was not always a familiar word for participants, which implies that it is a western concept that has been translated into Khmer (Lo Cascio & Beilin, 2010). Since in western capitalist economic models, "resources" refer to the supply we extract from nature for production and sale, it might not have existed as a relevant term for many Cambodians. This is because in many cases individuals did not mention a distinction between nature "out there" and nature that we "use" – they were one and the same. Nature was the items that were used and consumed. The things described as nature: trees, air, water, fish, were also all the things that they consumed for sustenance. This inherent connection is argued by Hinchcliffe (2007) to be reality. Hinchcliffe suggests that the duality perceived to exist between nature and society is contrived, and that is why Cambodians in this study did not necessarily distinguish between nature and what are considered to be natural resources. All of nature was in some way related to humans and in turn humans were connected to nature for all their needs and survival.

The western influences of the term natural resources though were revealed when speaking to several urban individuals. Only those living in the city mentioned resources such as "gold", "diamonds", and "oil". These are clearly resources of the developed world. Most rural individuals discussed "fish", "water" and "air". At the same time though, university graduates were more unfamiliar with the term "natural resource" than those with an education of less than grade 5. An explanation might be that the individuals who have lower education would be more likely to be working directly with nature, as farmers or another livelihood that extracts resources from the forest and therefore are more familiar with the term. Since Cambodia is a country that is experiencing rapid economic development the concept of natural resources might be becoming more relevant to those working closely with nature. While it may be a foreign concept, to them nature is not one or the other, it is still making its way into Khmer understanding due to the increased demand for those resources. Wealthy individuals though were the most familiar with the term and this was because several of the wealthy individuals were the key-informants, who were particularly knowledgeable about the environment and natural resources.

One theme that connected the importance of nature for life was that "forests make rain". This appeared to be a common explanation for why trees were important and was a common statement. Importantly, no individuals considered "wealthy" mentioned this phenomenon. Of all the income groups poor people mentioned this the most. This implies that less wealthy participants draw more on this simple relationship, perhaps because it relates directly to their lives and experience. The existence of forests

and the regularity of rains are vital for individuals who live off of the land. Therefore the concept "forests make rain" is a simple yet profoundly important one that sums up complex hydrological relationships into a connection that it is frequently heard when discussing nature in this part of Cambodia.

Demographically, it was interesting that the very poor in this study did not mention "fish" when referring to nature or natural resources. This could be because of their lack of access to fish as a protein source, being far from water in this region. The poor demographic though mentioned it the most out of all the income levels.

### 6.3.2 Nature is happiness and wellbeing

Nature providing happiness and wellbeing was something mentioned by those with higher than a grade 5 education, amongst all income groups except the very poor and by all the target groups except urban. The income group considered not so poor most frequently mentioned happiness when discussing nature. This could relate to their financial security allowing them to benefit from the parts of nature which makes them happy, or as some referenced, being around trees and nature provided a comfort. Potentially this group's financial stability meant they had more freedom to "enjoy" nature in a more leisurely way. Also since several of these individuals were in the rural target group they were directly sustaining themselves from nature. It is interesting that they also associated happiness coming from nature. As will be discussed below, by conserving and protecting nature, a sense of happiness and wellbeing are also being preserved for Cambodian people, particularly those living outside of the city.

### 6.3.3 Nature is protection and balance

Nature providing protection was an important theme in this study. It is interesting that nature conservation also directly translates to "protecting". Therefore, for many participants in this study protecting nature was protecting themselves. Maintaining balance in nature appears linked to protecting humans although these concepts were not always mentioned together. Most of the individuals who discussed preserving a "balance in nature" were university graduates. Perhaps this is linked to learning more about the cycles and systems Earth has that are necessary for life. This appeared to be a concept that was taught and that is why those who were very poor and poor, who are also mainly the less educated, did not mention balance, although several of those individuals did mention the concept of nature providing protection. Nature providing direct protection was something that participants described being able to experience individually, while balance in nature was something more abstract.

### 6.3.4 Nature is spiritual

The belief in the forest spirit is relevant to the cultural understanding of how Cambodians conceptualize nature. It was revealed in this study that in particular those over the age of 60 held the forest spirit as a personal belief. Whether or not that translated into specific forest stewardship or behaviour was not clear, but it did expose that n'tah is a belief that is still prominent today. By preserving nature we are

preserving spirits and ancestors who are believed to be in the trees. With several individuals saying that n'tah made them reconsider cutting down trees it is potentially still something that encourages a respect and conservation of nature that has existed historically. It was also interesting that all those in the inside locals target group mentioned believing in the forest spirit, indicating that those working in the Rescue Centre, in the forest, with the trees and the animals still believed in its existence. This belief is potentially what NGOs and the government were tapping into when they posted the billboards described in chapter 2 (see Figure 3). These billboards appealed to the belief in the forest spirit and Buddhism to discourage the cutting down of trees.

The very poor were the largest income group to mention the forest spirit, suggesting that those living the most basic of lives still connect to nature in this way. This was in contrast to those considered not poor, who had the highest percentage of individuals who mentioned not believing in the forest spirit. Perhaps there is a relationship between acquiring wealth and distancing oneself from the mystical ideas of the forest. Since the income differentiations were directly related to livelihood status, whether the participant had a cemented house and several vehicles revealed a movement away from living more closely with nature as most very poor people in Cambodia still do. By building a cement house perhaps it is easier to separate oneself from the spirit of the forest and therefore lose a belief in it as well. The relationship with nature might also change as the individual's work morphs from subsistence based livelihood to a job that requires exploitation of resources; such as factory work or timber trading.

Interestingly, although those with the lowest education believed the most frequently in n'tah, university graduates were next. It would be intuitive to say that as an individual gained more practical knowledge they would believe less in the ancestral ideas of spirits but this was not the case in this study. Perhaps even for those with higher education there was still room for cultural, historical and ancestral beliefs surrounding nature.

### 6.3.5 Nature as something "not manmade"

When divided between two groups, namely those living in the city and those living outside of it, the concept that nature is not something "manmade" was discussed much more by those living outside of the city. Potentially for urban dwellers this idea is linked to "nature is everything" theme, as many urban individuals mentioned this as well and therefore perhaps they don't exclude manmade things from what they conceptualize as nature. But for participants in the study who lived outside of the city, the majority felt that cities and manmade things like buildings, cars and motorbikes were the antithesis of nature. Perhaps because their lives are still tied more directly to nature in its original form and utilizing nature therefore they have a perception of nature as fundamentally something that "grows up by itself" and is not created by humans, even though everything made by humans is made with items taken from "nature".

## 6.4 Nature Conservation Conceptualized

Nature conservation proved to be a complex concept even when it was a familiar term. Although some individuals were quick to define it and knew what it entailed, by learning about the constructions of nature and by discussing issues around it, much more was revealed. Fundamentally, nature conservation meant protecting conceptions to and relationship with nature. It also aroused discussions about how nature conservation is influencing the lives of Cambodians, through tourism and notions of sustainability.

### 6.4.1 Protecting what is "nature"

As reported in section 5.5.1 the translation of "nature conservation" in Khmer directly translates to "protect the source of dharma." Dharma in Buddhist teachings is simply defined by the Merriam-Webster dictionary as "the basic principles of cosmic or individual existence: divine law". Therefore it is reasonable to associate this definition with how individuals described nature. Nature is something that grows up by itself or all that is around us. Nature though, was more than that definition and was constructed to represent several other profound relationships. When participants defined nature conservation as "protecting or saving nature" they really were describing that nature conservation protects all of their constructions, perceptions and relationships with and to nature. This was interpreted to mean protecting their use of nature and access to it, their happiness and wellbeing, their source of protection and their ancestral spirituality. For many Cambodian people, those are the most important things in their life.

Nature conservation was deemed a positive thing by all participants in this study. Despite minor drawbacks, overall protecting nature was important to Cambodians. But as revealed in this study the most important aspect to conservation was that it protected nature so that it could continue to be used. The distinction contrasts with what nature conservation typically does, which is to restrict access and limit use. This was recognized by some individuals in regards to drawbacks but did not seem to be something they were that bothered by since they were still able to access many NTFPs. Particularly those living in the protected area around the PTWRC did not seem to mind having limitations on what and when they could take items from the forest for use. They felt their other priorities and values of nature were maintained through the conservation. They mentioned the protection from heat and storms that the conserved forest provides, the forest spirit that exists within it, the peace they feel living around trees and nature, and the items they can still take which provide for their livelihoods (like leaves and firewood).

### 6.4.2 Tourism and sustainability

It took time to tease out all these different important meanings behind what nature conservation is to Cambodians because – as it is a western concept – many times western realities of conservation were discussed instead of what it could be meaning to them. Two topics that were recurring throughout the

discussions about nature conservation were tourism and sustainability; both were perceived to be benefits from and explanations of conservation. The sources of those topics varied. Individuals living outside of the city mentioned tourism twice as much as urban individuals did, and urban individuals mentioned sustainability more than any other target group. Tourism was something that individuals living in the protected area or around it would be more familiar with. They see it and benefit from it at PTWRC and they associate the attractiveness of forested area to holiday makers coming for relaxation in nature. Urbanites though, potentially are more familiar with the concept of sustainability as a promoted idea or as an explanation as to why conservation is needed.

### 6.4.3 Nature conservation as an unfamiliar term

Although the principles and practice of nature conservation were familiar to almost all participants, the term itself was not. Most significantly, women, individuals over 60 and those with less than a 5$^{th}$ grade education did not know the term. This therefore could be directly tied to education levels, as fewer women and older participants had higher than a grade 5 education. Those more exposed to current events and developments around the environment in Cambodia were familiar with the term. Importantly, their unfamiliarity with the term did not mean they were not knowledgeable about what phenomena would be represented within those terms, such as preventing the felling of trees, illegality of hunting, or concepts like ecotourism.

It appeared that in particular Cambodians were still getting used to the reality that the forests were a finite resource that could be completely exhausted if not actively conserved. Many participants mentioned that in the past they did not worry about conservation because they had so many natural resources (section 5.5.6). Intense deforestation did not occur in Cambodia until after the war in the 1980s and 1990s and rapid economic development has only really taken off in the past decade. Results from this study reveal that conceptions of nature conservation today revolve around a consensus that forests and wildlife are valuable and are being depleted, and that conservation is necessary, balanced appropriately with development. Several participants concluded with an observation of irony, that even though now there is more conservation, there is also more destruction.

## 6.5 Perceptions of the “other” and the “past”

Cambodia is a country, like many other developing countries, that has a very urban population and a very rural population (no suburbs or green parks softening the lines between the two). One lives a busy city lifestyle with many elements of the developed world while the other is still living a subsistence lifestyle that involves a lot of directly working with the land. Whenever there are two clear dichotomies like this there can easily be perceptions of the “other” group. This was evident in this study, in thoughts on what “country” people do and think and ideas about what “city” people do and care about.

### 6.5.1 City versus rural

As reported in section 5.5.4, city versus country participants had several preconceived notions of one another based predominately around education and exposure. Both sides assumed that the other did not care about the environment or did not know either because of lack of education or lack of experience. There were also significant differences in their discourse around these concepts. Generally, urban individuals either preferred development as a priority or both (conservation and development) as being priority, compared to those living outside of the city, who more frequently preferred conservation. This could be expected as those living closer to nature would like to see it preserved as they benefited from it directly, while individuals living in a developed environment prefer their lifestyle. This divide could lead to increased divisions between the rural and urban, as there is always a struggle between whether an area should be conserved or developed.

There was also a strong preference from the urban individuals for a separation between wildlife and humans that was not felt by most of the rural individuals (rural referring here to those living outside of the city, including those termed villagers). This becomes relevant when discussing whether to allow humans to co-habitate with wildlife or whether they (the humans or the wildlife) should be removed from the forest and put in separate locations. As one urban participant pointed out, humans live in villages, wildlife live in the forest; she was unable to envision how wildlife and humans could share the same space peacefully, whereas for those in villages the distinction was not so clear cut. This also relates back to the separation Phnom Tamao itself might be encouraging. Those urban individuals who visit Phnom Tamao to learn about and see wildlife are then provided with this opportunity to conceptualize wildlife as something that lives in captivity, protectively separate from humans. This situation would therefore be reinforcing their perhaps already existing idea that since they live in the city and that wildlife live "out there", that humans and wildlife should be segregated in this way. Just as western societies went through the industrialization that countries like Cambodia are now experiencing, they also have gone through a period of severe division between humans and nature and humans and wildlife which is still being overcome and which appears to be occurring now in Cambodia, a rapidly urbanizing country.

Several rural participants also felt that those living in the city did not have a healthy respect for the forest spirit and that they entered the forest only to make money. The rural individuals felt they themselves only utilized the forest for local consumption. While other participants recognized that even though urban individuals lived in the city, they still felt it was possible for them to respect and care for nature. On the other hand, some urban individuals felt it would not be possible for country people to care about nature and nature conservation because they didn't have the education to do so. Educated urbanites felt their respect and appreciation of nature stemmed from their knowledge of its importance and since they gained that knowledge through schooling that it would be impossible for country people to know or care about it. Urban individuals also perceived the rural individuals to be destroying the forest because they cut down trees and occasionally kill wildlife; in most cases they associated this with a lack of concern,

regardless of whether they were doing it for their own survival and with an inherent respect for the forest spirit.

These perceptions of the "other" were interesting and illuminating but they didn't appear to be true reflections of the urban and rural participants in this study. The stereotypes described above were not reflected in what the country and city people in this study expressed about themselves. Nature and Cambodians' natural heritage appeared to play an important role in both urban and rural individuals' lives. Although they varied demographically and geographically overarching themes of important relationships to nature prevailed. The perceptions of the "other" that were revealed in this study expose an important misunderstanding of the respective groups. Ideally this study helps break down this barrier by exposing that, although the different communities perceive things differently, there are common values when it comes to protecting nature that are important for all Cambodians.

### 6.5.2 Then and now

It would not be unique to this study to associate a very different reality in the "past". Obviously nations grow and change and have wars, all of which alter the livelihoods and histories of its citizens. Cambodia's "then and now" is a little more concrete than some countries due to their civil war, which rearranged the population and froze development in such a way that there is a clear "before the war" and "after". Many participants in this study were able to touch on this, what life and nature was like before the war and after.

The themes surrounding participants' perceptions of nature historically and in their personal past could be summed up with the phrase "don't know what you've got until it's gone". Several participants felt that in the past there was less of a concern for conservation because there were so many resources and so much forested area. Although now, due to excessive use there is a general understanding that much has been lost and that now we must preserve what is left. But individuals also recognized that even though there is more conservation now, there is still more destruction. This was explained by some individuals as being because people do not care or connect to nature in the same way as they used to. It was claimed that nowadays many people only care about money and city jobs, such as in factories. This contrasted with the past when Cambodians used to live off the forests in a more "traditional" and presumably "sustainable" way. This idea reflects a common one whereby the past is romanticized as the "ideal" where communities lived more harmoniously with nature (Cronon, 1996). This may or may not have been the case in Cambodia, as well as any other country that has experienced similar development. Nevertheless, the perception exists and it exemplifies the idea that historically Cambodian people had a more subsistence relationship with nature where they took what they needed and presumably did not feel outside pressure to change that dynamic.

This idea of then and now contrasts with the idea that no one knew or cared about conservation prior to NGOs, government teaching and bringing conservation to the villages. Several felt that the values

associated with nature conservation were only ones that could be learned through someone teaching it, as opposed to something that existed in another form under another name or without a title at all. Most likely it is both; there did exist a different reality fifty years ago, whereby communities did live more directly alongside forests and wildlife, but perhaps within that lifestyle there was a stewardship ethic that allowed for sustainable use of nature. There were also fewer technologies available and therefore extracting trees, fish or any other resource was done manually and consequently, by default, the lifestyle did not allow for overexploitation. Alongside those realities there was also the belief in the forest spirit which provided a reverence and appreciation of the forest. Although the spirit did not physically stop anyone from using the resources they needed, psychologically it could have created at least a consideration of the forest and its own importance spiritually as something that exists only when intact.

It would appear that nature conservation itself though was most likely an introduced concept, one that was taught and negotiated through NGOs and the government. As reported earlier, Cambodia did experience rapid deforestation after the war, mainly due to the military and the government (not necessarily the local communities, and in response to outside demand) and therefore in some cases might have needed conscious conservation implementation. Nowadays people do learn about the "importance of the environment" from school, television or from the NGOs and government. And this would be necessary in order to "convert" communities to conservation since their conceptions of nature, although not purely related to economic gain from destruction of forests, do involve using nature. Therefore, by NGOs and the government trying to discourage the use of the forest and restricting areas that communities previously had access to, they are essentially 'going against the grain' of what Cambodian people appear to conceptualize as the purpose and reality of nature. By NGOs "enlightening" communities by teaching them western ideas about protecting and conserving nature, they are in some ways neglecting an already existing stewardship value that appeared in this study, one that desires to use nature in a way that allows for humans to continue benefitting from it in perpetuity.

## 6.6 Complexities, Dichotomies, Paradoxes and Contradictions

It is apparent from this study and from those who have attempted to examine how it is constructed: nature is a complex and fluid concept. Cambodian people are currently in a state of rapid development and change in regards to their relationship with their natural heritage. Tourism is developing and so is manufacturing. The perceptions of nature are shifting as communities grow and fluctuate from rural to urban and as technology changes how resources are extracted and lives are conducted. This state of flux was articulated in this study by participants who observed that even though there is more conservation, there is also more destruction. Cambodia's natural resources are now linked into the global economic system. There is an "awareness" of the need to preserve what is left of forests but there is also increased demand from ever growing populations and development in countries like China.

There were also contradictions and dichotomies in the themes that arose within the beliefs versus realities. Just as with Buddhist monks, who are theoretically not supposed to "kill" anything, but who

eat meat, individuals who believe in the forest spirit are still often willing to go out and cut trees. There is always duplicity when dealing with what one feels they *should* do, and what they *need* to do to survive. This is certainly the case in Cambodia, where poverty still forces many individuals to do whatever is necessary to provide for their families, including things they might agree are not sustainable or good.

Complexity also arises when discussing the drawbacks of conservation. Since conservation – as it is implemented at this stage in Cambodia – comes from a western framework of protected areas and enforcement of laws, runs up against the difficulty of communities who have historically lived off and with the forests. Cambodia is unlike many western countries where these concepts come from, where humans no longer "live" in and directly off the forests. Therefore this model struggles with its implementation in countries like Cambodia because communities are still living in these PAs and need to maintain their own livelihoods. Unfortunately even when ecotourism or other income generating activities are introduced, they do not always meet the communities' needs. Many times the restricted access or the relocation of families is dramatic and emotional. The reality is no doubt complex and any solution will inevitably disadvantage someone.

## 6.7 So, What Does Nature Conservation Mean to Cambodian People?

When all the themes from all the participants in this study are looked at collectively, an overarching theme arises that answers the question posed in this thesis, namely what does nature conservation mean to Cambodian people? For Cambodians in this study, in my view, nature conservation primarily means deriving benefits from nature, including economic benefits, health benefits, protection, spirituality and happiness, all of which are perceived to come from nature. Cambodia at its heart, even for wealthy individuals, is a country where citizens are concerned about survival and stability and many people connected the health of their nature to their own continued existence. This survival related many times to economic sustainability. Cambodian people want to save their forests and their nature, and they want nature conservation so that they can continue to benefit from what nature offers, e.g. non-timber forest products, timber and other income opportunities, as well as indirect benefits such as protection from storms, fresh air, climate regulation and happiness. As one participant succinctly put it: "if we protect nature there will be more forests and wildlife and then people can use the nature" (Interview #32). Nature conservation to Cambodian people means economic and human perpetuity, and the ability to provide nature's benefits to future generations.

This is fascinating because potentially if this study was conducted in a developed country the meaning of nature conservation could be drastically different. Whether nature conservation contributes to the economy (in the form of tourism) or not, most individuals would not perceive that as a meaning of conservation to them. Most westerners typically associate sport, beauty, leisure or politics with the concept of nature conservation and not necessarily their own sustained survival (Akama, 1996; Joyce, 2012). This study shows that even though Cambodia is developing and its population is urbanizing that

there is still a strong connection to the nature that sustains them which connects their own survival to the survival of these areas.

This indicates that Cambodian people want nature to be maintained so that it can be used, not just for its own inherent value. To Cambodians, nature and humans must interact for humans to survive, and in order for humans to provide for future generations nature needs to be preserved and protected but also utilized in a sustainable way. Hence, for Cambodian people there can be no separation of people from nature.

## 6.8 Suggestions for Future Conservation in Cambodia

Examining the trends of conservation in Cambodia and learning from themes expressed by participants in this study, including key-informants, it is possible to speculate how conservation will evolve in Cambodia and make suggestions. As it stands now, there are 23 protected areas that were established in a 1993 Royal Decree on the Protection of Natural Areas. With the establishment of the 2008 Protected Areas Law, a framework of management was laid out for the Ministry of Environment to enforce. This law, alongside the country's signing of CITES, provides protection of valuable habitat and allows for laws against hunting to preserve species. Several key-informants discussed two main issues that impact the success of conservation - a lack of long-term vision and weak enforcement of laws. Key-informants mentioned that as the protected area stands right now it is certainly too much for what can actually be "protected". With few rangers on the ground to enforce the laws many of the parks are undermined by illegal logging and hunting as well as legally granted concessions (Key-informant Interviews 1 and 3). Even with the established relationships NGOs have with the government it is always possible, as mentioned in chapter 5, that an area that had been managed and cared for by a NGO for years could all of a sudden be conceded for development. This, key-informants said, is almost understandable due to the fact that there does need to be areas that are developed. With so much land zoned for protection it is not feasible for it all to be enforced and also creates limitations for how the country can develop. This could be why land is progressively being sold off in concessions, because it was an unreasonable and unplanned amount in the first place. It is tempting and potentially necessary in some cases to concede land to other countries to meet other economic goals. These concessions, as mentioned in chapter 2 and by key-informants in this study, are a serious threat to conservation priorities.

A better way forward, noted by several key-informants, would be a strategic plan. The plan would include a reasonable amount of protected area that could be committed to being managed and conserved as well as areas that were reserved for development. That way an appropriate amount of resources could be allocated to ensure the success of both areas instead of establishing a protected area that only gets chipped away at through concessions or illegal logging. By creating a long-term strategic plan, proper enforcement of existing laws could be carried out because a more reasonable amount of land would be under the Ministry of Environment's supervision.

This study also indicates that Cambodian people want to find a way to conserve nature but that also allows them to continue to benefit from it and have access to it. Participants in this study felt nature conservation was important but in a way that protected their associations with nature, including their use of it. Therefore a conservation strategy that incorporates communities' right to use it would be more aligned with Cambodians thoughts, needs and priorities.

Potentially if only a "fences and fines" approach is utilized, it will be met with opposition and undermining because that approach ignores Cambodians conceptions of what nature "is", something that should not be separate from humans but that should be used in order for human survival. Potentially this kind of conservation is already being met through community forestry as some studies have shown (e.g. Lo Cascio & Beilin, 2010), and by allowing limited access for local communities in protected areas and empowering them to manage their own forest resources. As it was heard when talking to those living in the protected area around Phnom Tamao, community members appreciated the ability to pick up dead wood for cooking and leaves that had fallen, as well as several other non-timber forest products. This continued access and relationship to the forest preserved many of their relationships to nature while also allowing the forest to grow up. Although, as Lo Cascio (2010) found in her study of community forestry in the Cardamom Mountains, whenever conservation is the impetus for empowerment of communities, eventually community members realize that it is the nature that is the priority and not their needs. This awareness can make communities distrustful and defensive about their own rights. Undeniably, implementing conservation in areas where communities already live have moral and ethical issues to contend with: the international imperative or nature conservation versus local communities' livelihoods and dreams.

## 6.9 Summary

This chapter discussed some of the significant demographic and target group variances regarding Phnom Tamao, nature and nature conservation. It also addressed some of the noteworthy revelations exposed between the rural and urban groups relating in particular to one another, and between the past and the present. The chapter then moved on to discussing the complexities and the overarching meaning of what nature conservation is to Cambodians in this study. Lastly, this chapter provided some speculation on and suggestions for future conservation efforts in Cambodia.

The key finding in this chapter was that nature conservation means protecting what Cambodian people conceptualize as nature, which is a combination of use, protection, happiness and spirituality. This was revealing as it illuminated that nature conservation is not just about sustainability and ecotourism but involves a deep need for a continued direct relationship with nature. For Cambodians in this study, humans and nature were inseparable and nature conservation meant allowing for that connection to continue in all the ways that are valued by Cambodians themselves. The final following chapter summarizes the outcomes and conclusions of this research by revisiting the research questions and making a few policy recommendations for conservation practitioners.

# Chapter 7

# Conclusion

## 7.1 Introduction

In Chapter 3, a framework for this study was developed using social construction theory as a tool to help understand what nature conservation meant to Cambodians. In Chapter 4 the methodology and methods applied to this study were laid out. In Chapters 5-6, the framework and methodology were deployed to process and analyse the data collected through semi-structured interviews. The objective of this chapter is to look back at the study's findings to answer the main research questions and present several policy recommendations for conservation practitioners.

This chapter then provides suggestions for future research, based on the gaps in inquiry found when pursuing this study. It also aims to tie this research to the larger realm of applied social construction of nature theory. By linking this study with others using a similar theoretical framework, this chapter expresses how this research has positively contributed to the growing number of studies using SCT and SCNT, while also illuminating how it has utilized the theory in a unique way. Lastly, this chapter provides an overall conclusion on the researcher's thoughts regarding the research process and findings.

## 7.2 Revisiting the Research Questions

**(1) How are communities surrounding Phnom Tamao Wildlife Rescue Centre and individuals in Phnom Penh socially constructing nature conservation and the concepts that surround it, including nature, wildlife and the rescue centre itself?**

Several overarching themes emerged when examining how participants in this study socially construct nature, nature conservation, wildlife, and the PTWRC. These include constructing nature as all that supports life including the trees, air, water and fish; nature as happiness; nature as spirituality and nature as protection. Therefore, nature conservation fundamentally meant protecting these tangible aspects, even while many participants spoke of buzz concepts like tourism and sustainability. This meant conserving nature so that it could continue to be used. This revealed that nature conservation implied to them not restricting access to nature, but the protection of it, in order to allow it to exist for humans to use in perpetuity.

Surrounding this overarching theme of what nature conservation means, other revealing ideas arose around the conceptions of the wildlife rescue centre itself and wildlife. This study illuminated that the Phnom Tamao Wildlife Rescue Centre was primarily known as being a zoo by most participants but also was perceived to be a resort, a place for wildlife conservation and the raising of wildlife. These constructions of PTWRC suggested that Cambodian people are shifting towards a mind-set that prefers

humans and wildlife to be separate. By associating PTWRC as a zoo and a place where wildlife can be kept safely away from humans, Cambodians are furthering the movement towards segregation of humans and animals. This was revealed by several urban individuals who mentioned feeling that humans and wildlife should be separate.

Additionally, this research discovered a range of knowledges surrounding the threats to nature and what is needed to make conservation successful. The risks included hunting, illegal wildlife trade, corruption, deforestation, war, and poverty. Ways to make conservation effective cited by participants in this study were education, strategic planning and eradication of poverty. Individuals acknowledged that nature conservation was not going to be a priority for individuals who are struggling to survive and that the supposed objective 'good' of conservation is not always relevant to the local communities' situation. Participants in this study constructed nature conservation generally as a foreign concept but one that had the possibility to connect with traditional environmental values. The constructions of nature proved key to understanding the real meaning of nature conservation to Cambodian people.

**(2) How does distance from the centre, relationship to the centre (target groups), and demographics (demographic groups) influence the conception of nature and nature conservation?**

Although this study aimed to interview and engage with a variety of different groups and opinions what the results of this study revealed was that across a lot of the demographic and geographic lines, there were overarching themes around nature and nature conservation. The key messages of which have been discussed in the question above. Some interesting distinctions that arose between the different groups (target and demographic) were discussed in Chapter 6 and are summarized below.

The result that nature was described as happiness and wellbeing most frequently by those considered not so poor was revealing. By illuminating that nature represents happiness, particularly for those who are not struggling to survive is a reminder that when addressing poverty it is vital to maintain communities' relationships to nature. It was also interesting that the concept of a need for a balance in nature was mainly discussed by university graduates. But both uneducated and educated individuals expressed the need to protect nature so that it can protect us. These appeared to complement one another and symbolize how Cambodians can connect what they personally experience in the rural setting to what urban individuals are learning in school.

This study also revealed that older individuals tended to have a stronger association with the forest spirit. Although all demographics and target groups mentioned the forest spirit, the results displayed that the older generation appeared to have a deeper connection to it. The very poor were also the largest income group to mention the forest spirit, suggesting that those living the most basic of lives still connect strongly to nature in this way. The fact that university graduates still hold a relatively strong belief in the forest spirit reveals that despite the changing dynamic of the country, this concept still has importance in Cambodian culture.

One larger influence that existed was between those living in the urban area and those living outside of it. When discussing nature conservation, tourism was mentioned substantially more by those living outside of the city, while sustainability was mentioned more by those living in the city. These concepts related to the individual's personal experience. Potentially those living outside of the city and near the Rescue Centre were more familiar with tourism because they see it more frequently, while sustainability is a buzz word that might be used in schools and in discussions about urban development making it more familiar to city dwellers. Sustainability and tourism were the two main themes that were associated directly with nature conservation – a western concept brought into Cambodia; presumably because these terms are also western concepts, they therefore were associated with nature conservation.

Participants' education and age, as well as their gender, played a role in whether or not they were familiar with the term nature conservation. This reveals that the entire concept is still not fully grasped by all Cambodians. Although they were still aware of what was involved with the practicalities of the term, they didn't know the word itself. This indicates that if the government and conservation practitioners want to make nature conservation a priority for Cambodians, they therefore need to make sure it is a word to which individuals can associate meaning. Results from this study show that individuals – particularly rural people, are not aware of the terminology. In order to ensure community members associate their values to this term, those implementing conservation will be required to recognize how the concept translates itself to local context. This research provides this link by connecting the values attributed to nature and what protecting those means to Cambodian people.

## 7.3 What are the Implications for the Future?

Some important implications for the future of nature conservation that this study displayed were, first, that clearly Cambodian people in this study still have a strong relationship with nature. This connection is both a benefit and a dilemma. Protecting and conserving nature appears to be an important priority for Cambodian people, therefore making it a fairly easy sell; however, on the same note, since Cambodian people do not already perceive a separation between themselves and nature they therefore feel they should conserve it to use it. This could be a dilemma for areas where the government or conservation organizations want to completely restrict use. Although, as was discussed by participants living in the protected area around Phnom Tamao, with the right amount of manageable and sustainable access and use, communities can meet their daily needs and be reasonably happy.

## 7.4 Recommendations for Conservation Practitioners

Several policy recommendations have been developed from the findings in this study pertaining to conservation practitioners. The findings highlight the need to further engage Cambodian citizens. With the demand for concessions growing and the pressure to conserve increasing it can be difficult to consider the human populations that are impacted by either decision. By considering their relationship to nature and listening to their thoughts and needs, ideally, a compromise can be reached. Additionally,

when engaging more with communities regarding their priorities and relationships with nature, there are opportunities to tap into the relationships that already exist. As this study shows, Cambodia has not yet developed to a point where the people perceive a divide between themselves and nature. As this study focused on, there does not need to be that duality, and by creating one a lot may be lost. By maintaining that connection and relationship to nature that sees human's role with and as part of nature, it is much easier to find reason to preserve it.

Additionally, this study's findings aligned with what several other researchers have found in Cambodia, that Cambodian people have a strong, historical connection to nature. The Khmer culture is one that has deeply rooted environmental values that could be further incorporated into conservation initiatives. Although, leaving all the education, outreach and implementation of conservation to NGOs allows for western conceptions of these issues to be promoted. In order to maintain the important cultural relationships that exist, Cambodian people should be organizing and implementing. By having the government involved, Cambodian people will be the ones who can speak not just in a way that brings the messages from abroad but one that finds the Khmer cultural lessons that promote sustainability.

Regarding the NGOs who are already established and working in conservation in Cambodia, it would be valuable to consider how the communities being worked with are constructing nature. Particularly for international NGOs, it is very useful to learn how individuals are conceiving of the world around them and how they perceive conservation. Using social construction theory can help unveil the different realities people live in, which is crucial for understanding how to best work with their needs and priorities.

Particularly when working with other cultures, the idea of removing yourself from your own box of knowledge is important. One thing this study exposes is that western ideas about conservation are going to be different in how they translate to Cambodians. What is assumed to be the rational reasons for conservation to the western world might not be relevant in Cambodia. As alluded to above, there might be built in conceptions that relate to conservation that can be tapped into. Taking the time to learn those conceptions can provide that opportunity.

Lastly and perhaps most importantly is that nature, values, culture and development are all constantly changing and therefore nature conservation needs to stay fluid as well. One way to ensure that the programs and engagement with the community are successful is to continue the dialogue. Through studies like this one, whereby open ended (non-threatening) questions are asked to community members about their beliefs and their needs, people tend to feel important and included. By engaging families and members of the community from the beginning they are more likely to have a positive impression of what is going on, and by maintaining that communication, necessary adaptation can evolve.

## 7.5 Recommendations for Future Research

While pursuing this research a few very interesting topics arose that would be useful to investigate further.

1. The forest spirit – this has been discussed throughout this thesis but was only able to be explored superficially for this study. A thorough examination of the history and prevalence of this belief in Cambodia would be fascinating and would provide insight into an ancient forest stewardship ethic.
2. How nature conservation is conceptualized in other parts of Cambodia – learning more about how communities living in the deep forests of Mondalkiri in the northeast of the country would provide an interesting comparison. With many minority groups living in that region as well as communities living extremely isolated existences, learning how they conceptualize these concepts (whether they even know about nature conservation at all!) would provide a better overall idea of what nature conservation means to all Cambodian people.
3. A review of all the different NGO initiatives in Cambodia – with over one thousand NGOs operating in Cambodia they provide a slew of services in different realms and different parts of the country. With so many working in one small country there has to be many different theories, strategies and competing interests working towards similar and dissimilar goals. An exploration into how they are all functioning would provide insight into how Cambodia is developing.

## 7.6 Reflections on Social Construction of Nature Theory

Social construction of nature as a theoretical framework provided the necessary tools to help grasp the different lenses through which Cambodians in this study were seeing nature and nature conservation. The framework provided necessary removal from the researcher's vantage point when it came to this subject. Approaching this subject with the understanding and assumption that inherently, nature is social and is conceptualized according to one's cultural and relevant experiences, provided the appropriate open-mindedness necessary to really hear what was being said.

This theoretical framework helped tease out the meanings behind nature conservation because it allowed me to see the real connection these had to constructions of nature as a whole. When this framework was paired with historical and cultural context, it helped expose the explanations behind the variance that existed between the different groups. Using it for this study was a positive step for the utilization of social construction theory. It has proven how it can be successfully applied to other cultures, as a real tool to bridge the cultural divide that can exist when assumptions about objective realities can perpetuate, instead of solve dilemmas. Particularly when discussing the topic of nature conservation, a topic that is assumed valuable in many western countries and within the scientific community, it is necessary to look at how it translates in the context of local communities – who interact directly with the nature that is being conserved. The disconnect arises, just as it did in Lo Cascio's study in the Cardamom Mountains,

when management of nature and biodiversity for the global 'good' has little relevance for community members. And, according to Lo Cascio the large distinction exists when "… they [villagers] incorporate ideas about biodiversity [nature] as a normal resource." (p.354). This, she points out is the point when PA managers need to build on shared values, which is what this study revealed as well, the importance of boiling down conservation to conserving what Cambodian people cherish.

Similar studies that used social construction theory (Berngartt, 2004; Carle, 2007; McCallum, 2003; McFarlane, 2011; Scarce, 2000) did so in the context of the developed world. This study provided an opportunity to explore how social construction of nature theory could be applied to a study in the developing world. The findings from this research displayed that using SCT worked well because it allowed for reality to be seen independent of the assumptions we attach to nature in our own culture. This therefore displays that social construction of nature theory in particular is even more appropriate when examining cultures different from one's own. Just as it helps illuminate the lenses in which people view reality in their own countries, it proves useful when trying to understand other cultures as well through the same method. It does this by permitting us to remove ourselves and our preconceived ideas in order to understand the realities and truths that exist for the communities involved.

## 7.7 Overall Conclusions

Overall this study attempted to achieve a vague and complex feat, unveiling what nature conservation (a massive topic) means to Cambodian people. Focusing this study on Phnom Tamao provided boundaries while also expanding the project. Many different elements were at work during this study which at some point made the amount of data received almost unmanageable. Being that there was so much interesting information it proved difficult to summarize neatly all the different findings. It appeared in the end that the findings could almost stand on their own, in that the findings were interesting just for the sake of learning more about Cambodians' notions of these concepts. They were useful to learn and provided insight into Cambodians' conceptions of different topics relating to wildlife, a rescue centre, nature, development, threats to nature, drawbacks and personal gripes. This is all interesting information for conservation practitioners and anyone who is interested in how other cultures experience their world.

Some of the findings were more familiar than others; wildlife being a large animal or nature being something green are not unfamiliar associations. But other comments were more unique to Cambodia, such as learning about how many Cambodians still believe in the forest spirit and how closely Cambodian people still find happiness and protection in nature. The connection to nature that Cambodians have retained is most likely found in other developing countries where communities are still living so closely with nature. This study helps reinforce though how important it will be to maintain those relationships and associations. As social construction of nature theory tries to break down the barriers the western world has created between the contrived duality of society and nature (N. Castree

& B. Braun, 2001; Demeritt, 2002; Hinchliffe, 2007), for many of these communities there is no division.

Overall, the findings from this study are that at least in this region of Cambodia, within these small subsets of the population, nature conservation has a positive association for Cambodian people. In order for it to continue to do what Cambodians perceive it is doing ("protecting the source of dharma"), it will need to make sure it preserves the associations Cambodian people have with nature. That includes their dynamic relationship with it, using it for happiness, sustenance, welfare, protection and spirituality. If those important qualities of nature are lost, I would bet that so would the fight to save all the trees and the wildlife.

# Appendix A

# Research Information Sheet

Dear _____,

My name is Juliane Diamond and I am a Master of International Nature Conservation student at Lincoln University. My master's research topic is titled: **What Does Nature Conservation Mean to Cambodian People?** I am the principal researcher for this topic. This research is being conducted in order to learn more about how Cambodian people conceive of nature conservation in the context of wildlife rescue and rehabilitation. The study will focus around the Phnom Tamao Wildlife Rescue Centre in particular.

By learning how Cambodian people interpret nature conservation and in particular, wildlife rescue and rehabilitation, conservation practitioners, NGOs, and government ministries will be better able to understand the perceptions and feelings Cambodian people have around nature conservation. The questions for this study will relate to your thoughts on nature conservation, your experiences and opinions on wildlife rescue and rehabilitation, and your interactions with Phnom Tamao. Although participation is voluntary, I would be most grateful if you would agree to being interviewed.

The interview will take approximately 30 - 60 minutes and will be recorded with a digital recording device, if you are comfortable with that. If not, then only handwritten notes will be taken. The interview will take place at a venue that is convenient to you. The results of the research may be published, but you may be assured of the complete confidentiality of data gathered in this investigation.

To ensure your anonymity and confidentiality, the following steps will be taken: Your identity will be coded, and the code keys will be locked in a secured location on a secure computer. Any written material and transcriptions from interviews will be vetted by both supervisors to ensure that anonymity has been preserved where required. While in Cambodia all written material will be locked and stored in a secure location and on a secure computer until back in New Zealand where it will then be stored securely at Lincoln University.

You are able to withdraw information up until the time of analyzing the results. Analysis of results is expected to begin by December 2012. Beyond this date it will be impossible to extract the data.

If you are interested in participating I would ask that you please contact me at the number below and from there we can schedule an interview time and place that works for you. I request from there that we can either record your consent to participate if you are agreeing to be recorded, or if you are not comfortable with that, then we can utilize your response to this invitation to participate as your consent. I would also be pleased to discuss any concerns or inquiries that you may have about participation in the project.

Thank you very much for your interest in my study, I hope to hear from you soon.

Email: Juliane.Diamond@gmail.com; Juliane.Diamond@lincolnuni.ac.nz
Phone: Cambodia: +855 090 521 827, USA: +01 305-968-5362

**Names and contacts of Supervisor and Associate supervisor:**
Dr. Ronlyn Duncan, email- Ronlyn.Duncan@lincoln.ac.nz

Dr. Ken Hughey, email- Ken.Hughey@lincoln.ac.nz

The project has been reviewed and approved by Lincoln University Human Ethics Committee.

# A.1 Research Information Sheet – Khmer

ទំរង់ព័ត៌មានស្រាវជ្រាវ

ជូនចំពោះ_____

នាងខ្ញុំឈ្មោះ ជូលាន ដាយមិន (Juliane Diamond) ខ្ញុំគឺជាសិស្សថ្នាក់អនុបណ្ឌិតផ្នែក អភិរក្សធម្មជាតិអន្តរជាតិ នៃសកលវិទ្យាល័យ លីនខូន។ ប្រធានបទនៃការស្រាវជ្រាវ ថ្នាក់បណ្ឌិតគឺ : **តើការអភិរក្សធម្មជាតិ មានន័យដូចម្តេចទៅលើប្រជាជនកម្ពុជា?** ខ្ញុំគឺជា អ្នកស្រាវជ្រាវលើប្រធានបទនេះ។ នៅក្នុងការស្រាវជ្រាវនេះគឺយើងចាំផ្តើមអនុវត្ត ទៅលើ ការរៀនបន្តែមអំពី ថាតើប្រជាជនកម្ពុជា គិតយ៉ាងដូចម្តេចនៃការអភិរក្សធម្មជាតិ ក្នុងអត្ថបទ នៃការសង្គ្រោះសត្វព្រៃ និងស្តារនីតិសម្បទា។ ការសិក្សានេះយើងនឹងធ្វើឡើងនៅ ជុំវិញមជ្ឈមណ្ឌលសង្គ្រោះសត្វព្រៃភ្នំតាម៉ៅ ជាពិសេស។

ដោយយោងទៅលើការយល់ដឹងរបស់ប្រជាជនកម្ពុជា ក្នុងការបកស្រាយជាពិសេស អំពីការអភិរក្សធម្មជាតិ, សង្គ្រោះសត្វព្រៃ, និងស្តារនីតិសម្បទាយ៉ាងដូចម្តេច? អ្នកអភិរក្ស, អង្គការមិនមែនរដ្ឋាភិបាល, និងក្រសួងរដ្ឋាភិបាល ដែលយល់ដឹងច្បាស់ពីសញ្ញាក្នុង និងអារម្មណ៍របស់ប្រជាពលរដ្ឋកម្ពុជាដែលរស់នៅជុំវិញតំបន់អភិរក្សធម្មជាតិ។ សំរាប់សំណួរ នៅក្នុងការសិក្សានេះ យើងនឹងផ្តោតការគិតទៅលើ ការអភិរក្សធម្មជាតិ, បទពិសោធន៍ ដែលអ្នកមាន, គំនិតនៃការសង្គ្រោះសត្វព្រៃ, ស្តារនីតិសម្បទា និងអន្តរកម្មរបស់អ្នកជា មួយភ្នំតាម៉ៅ។ ហេតុដូច្នេះការចូលរួមរបស់អ្នក គឺជាការស្ម័គ្រចិត្ត ខ្ញុំមានការសប្បាយចិត្ត ប្រសិនបើអ្នកយល់ព្រមចូលរួមក្នុងការសម្ភាសន៍នេះ។

បទសម្ភាសន៍នេះចំណាយពេលប្រហែល ៣០ ទៅ ៦០ នាទី និងមានការថតសម្លេង ជាមួយឧបករណ៍ថតសម្លេង ប្រសិនបើអ្នកយល់ព្រម។ ប្រសិនបើអ្នកមិនយល់ព្រម គឺមានតែ ការសរសេរដោយដៃតែមួយគត់។ ការសំម្ភាសន៍ធ្វើឡើងនូវកន្លែងណាដែលអ្នកគិតថា ងាយ ស្រួលសំរាប់អ្នក។ លិទ្ធផលនៃការស្រាវជ្រាវអាចនឹងធ្វើការបោះផ្សាយ ប៉ុន្តែអ្នកអាចជឿជាក់ ថា លទ្ធផលដែលប្រមូលបានពីការអង្កេត វាជាការសម្ងាត់ទាំងស្រុង។

ដើម្បីរក្សាការសម្ងាត់ និងអាថ៌កំបាំង គឺធ្វើតាមជំហានដូចតទៅ៖ កំនត់សំគាល់របស់ អ្នក គឺប្រើជាលេខកូដ, ហើយលេខកូដនោះនឹងដាក់ក្នុងកន្លែងសម្ងាត់ ក្នុងកុំព្យូទ័រ។ ទិន្នន័យ និងដំណើរការដែលបានមកពីអ្នកសម្ភាសន៍ នឹងរក្សាទុកដោយប្រធានគ្រប់គ្រងទាំងពីរ ដើម្បី ធ្វើរណាយប្រាកដថាភាពអនាមិកត្រូវបានការពារ។ ក្នុងកំឡុងពេលដែលទិន្នន័យទាំងអស់ស្ថិត ក្នុងប្រទេសកម្ពុជា គឺយើងនឹងរក្សាទុកកន្លែងសុវត្ថិភាព និងប្រព័ន្ធសុវត្ថិភាពក្នុងកុំព្យូទ័ររហូត ដល់ថ្ងៃត្រលប់ទៅប្រទេស ញូវសេឡេនវិញ និងជាកន្លែងដែលត្រូវធ្វើការរក្សាទុកការជា សម្ងាត់នៅសកលវិទ្យាល័យ លិនខូន។

អ្នកអាចកែប្រែព័ត៌មានរហូតដល់ពេលធ្វើការវិភាគលទ្ធផល។ ការវិភាគនៃលទ្ធផល គឺរំពឹងថា ហ្នឹងចាប់ផ្តើមនូវ ខែធ្នូ ២០១២។ ផុតពីថ្ងៃនេះ លទ្ធផលហ្នឹងទាញចេញជាទិន្នន័យ។

ប្រសិនបើអ្នកចាប់អារម្មណ៍ក្នុងការចូលរួម អ្នកអាចទូរស័ព្ទមកខ្ញុំតាមរយៈលេខខាង ក្រោម ខ្ញុំនឹងរៀបចំពេលវេលាសម្ភាសន៍ និងទីកន្លែងធ្វើការរបស់អ្នក។ ខ្ញុំមានសំណើរធ្វើការ កត់ត្រាការយល់ព្រមរបស់អ្នក ដើម្បីចូលរួម ប្រសិនបើអ្នកយល់ព្រម ឬប្រសិនបើអ្នកមិនយល់ ព្រម យើងអាចប្រើប្រាស់ការឆ្លើយតបរបស់អ្នកទៅលើការអញ្ជើញចូលរួមក្នុងការយល់ព្រម។ ខ្ញុំអាចសូមធ្វើការពិភាក្សាលើរាល់ការព្រួយបារម្ភណ៍ ឬតំរូវការដែលអ្នកអាចធ្វើការចូលរួមក្នុង គំរោងនេះ។

ខ្ញុំសូមអរគុណច្រើនសំរាប់ចំណាប់អារម្មណ៍របស់អ្នកក្នុងការសិក្សារបស់ខ្ញុំ ខ្ញុំសង្ឃឹមថា អ្នកនឹងឆ្លើយតបក្នុងពេលឆាប់ៗនេះ។


អ៊ីម៉ែល : Juliane.Diamond@gmail.com; Juliane.Diamond@lincolnuni.ac.nz

លេខទូរស័ព្ទ : ប្រទេសកម្ពុជា : +855 090 521 827, សហរដ្ឋអាមេរិក : +01 305-968-5362

ឈ្មោះ និងលេខទូរស័ព្ទ នៃប្រធានគ្រប់គ្រង និងជំនួយការប្រធានគ្រប់គ្រង

បណ្ឌិត. Ronlyn Duncan អ៊ីម៉ែល : Ronlyn.Duncan@lincoln.ac.nz

បណ្ឌិត. Ken Hughey អ៊ីម៉ែល : Ken.Hughey@lincoln.ac.nz



គំរោងត្រូវបានពិនិត្យ និងអនុញ្ញាតិដោយ Lincoln University Human Ethics Committee.

# Appendix B Consent Form

**Consent Form**

***Name of Project:*** What Does Nature Conservation Mean to Cambodian People?

☐ I have read and understood the description of the above-named project. On this basis I agree to participate as a subject in the project, and I consent to publication of the results of the project with the understanding that anonymity will be preserved.

☐ I understand also that I may at any time withdraw from the project, including withdrawal of any information I have provided up until the time the results will be analyzed, which will be December 2012. Beyond this date it will not be possible to extract the data.

☐ I **agree** to the use of a digital tape recorder to record my interview.

☐ I **do not agree** to the use of a digital tape recorder, I opt to have the researcher only use handwritten notes.

Name: _____

Signed: _____ Date: _____

# Appendix C Interviewee Data

**Table A. Number and description of target and demographic groups interviewed**

| Target Groups | # interviewed | Description |
|---|---|---|
| Villager | 15 | Individuals living outside of the city with someone in the family commuting to the city for work, no one in the family working for the rescue centre |
| Rural | 7 | Individuals living outside of the city, living a subsistence lifestyle with no family members working in the city or for the rescue centre |
| Inside local | 3 | Individuals living in the protected area around the rescue centre with family members working for PTWRC |
| Urban | 25 | Individuals living solely in Phnom Penh |
| Key-informant | 10 | Individuals working for an NGO, the government, or themselves working for the rescue centre |

| Demographics | | | |
|---|---|---|---|
| **Gender** | **# interviewed** | | |
| Male | 40 | | |
| Female | 20 | | |
| | | | |
| **Age** | **# interviewed** | **Education** | **# interviewed** |
| 18-30 | 20 | ≤ Grade 5 | 9 |
| 31-45 | 17 | Grade 6 – 12 | 18 |
| 46-60 | 12 | University | 22 |
| 60+ | 11 | Unknown | 11 |
| | | | |
| **Income level** | **# interviewed** | **Description** | |
| Very poor | 7 | No motorbike or car, thatch roof home | |
| Poor | 16 | 1 motorbike; tin roof | |
| Not so poor | 13 | 2 motorbikes; cement housing | |
| Not poor | 13 | 3 or more motorbikes; structured house | |
| Wealthy | 9 | 1 or more cars or expensive motorbike; structured house | |
| Not applicable | 2 | Monks | |
| | | | |
| **Occupation** | **# interviewed** | **Occupation** | **# interviewed** |
| Farmer | 9 | Security guard | 1 |
| Construction worker | 3 | Lawyer | 1 |
| Pagoda staff | 1 | Tuk Tuk driver | 2 |
| Factory worker | 2 | No job | 1 |
| Village leader | 7 | Monk | 2 |
| Housewife | 4 | Student | 3 |
| Bank worker | 2 | Restaurant owner | 1 |
| Accountant | 1 | Cleaning lady | 1 |
| Nurse | 1 | Office manager | 1 |
| Clerk | 1 | Business man | 3 |
| NGO staff | 6 | Seller | 1 |
| PTWRC staff | 1 | Government | 3 |

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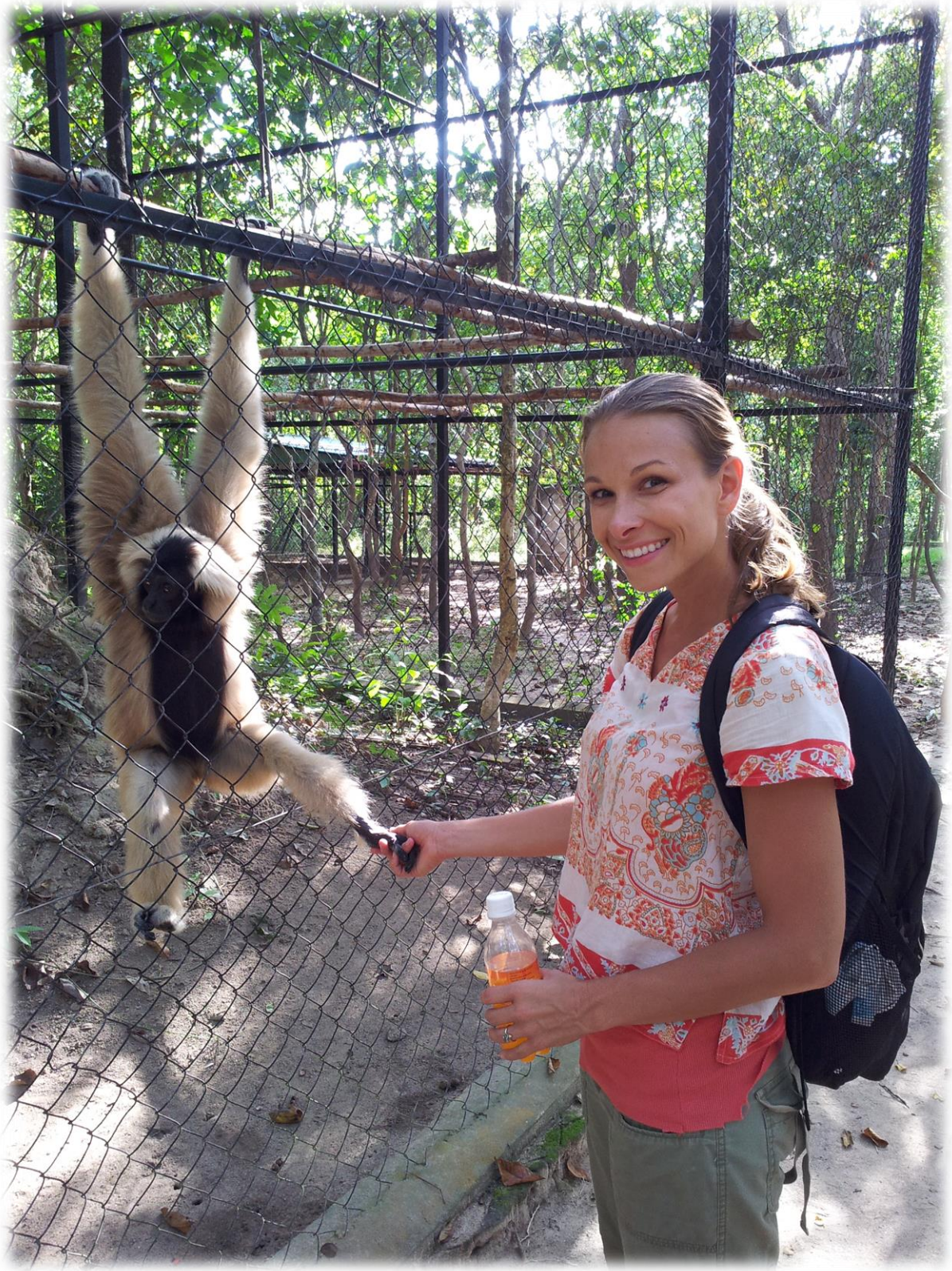

**Figure 21: Researcher and gibbon friend at Phnom Tamao Wildlife Rescue Centre (photo credit: Malivuth Bunthim)**